AUG. 15 1958

PETROLEUM WEEK

A McGRAW-HILL PUBLICATION

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Price 50 Cents

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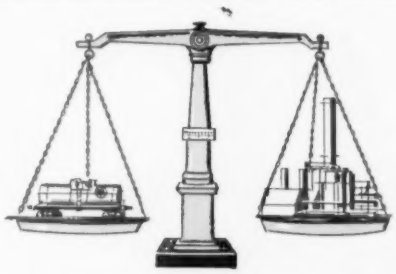
. . . Ethyl's service to reduce octane-improvement costs



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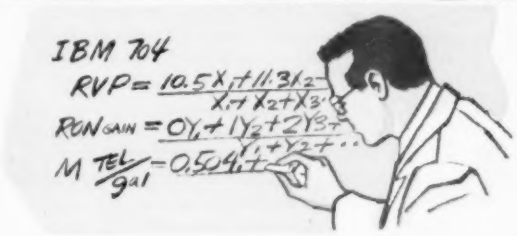

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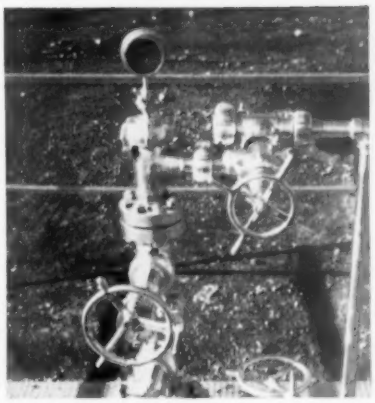

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87 YEARS OF PROGRESS WITH THE OIL INDUSTRY

60-Second Summary / WHAT'S HAPPENING IN OIL

August 15, 1958

dept/INDEX

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Labor may influence oil policies in Venezuela. Union leaders are now drafting recommendations, including a 75-25 plan for oil concessions. . . . p. 11

•

The new "prosperity" in product markets may be short-lived. Gasoline prices moved up, but so did refinery runs and gasoline yields. There could be trouble ahead. . . . p. 52

•

Operators with small budgets can drill in at least half of Western Canada at cost equal to the U.S. Mid-Continent. That is a finding of a special study, which reports that "vast reserves" remain to be found in the western provinces. . . . p. 18

•

Opponents of percentage depletion have been beaten, but they got more votes than usual. So you can be sure they'll try again in the next session of Congress. . . . p. 11

•

A pair of pilot plants are cutting catalyst testing costs in half. One screens out all but the most promising catalysts, and the other then automatically tests and records performance behavior. . . . p. 32

•

Presently oil-short Argentina is hopeful of becoming self-sufficient in petroleum in three years. It is setting its sights on becoming an oil exporter by 1964. . . . p. 42

•

Field processing of lean gas is being speeded up with silica-gel adsorption units. Due to high adsorption capacity, drying and regeneration is cut to 45 min. . . . p. 24

•

The once busy T-2 tankers are drifting out of the oil transport picture. They are suffering from depressed rates, new competition, and just plain old age. . . . p. 38

•

The Teamsters Union and 350 Chicago suppliers are making a fifth try for a new contract. The chief stumbling block is a union demand for a 10¢-an-hour increase in wages. . . . p. 46

•

Isolated refiners may have to integrate "either backward or forward" to attain financial security. That's the indication from an analysis of margins of Mid-Continent refiners over the past ten years. . . . p. 11

•

Sometimes it pays to be old-fashioned. A California stripper well producer reached back to the windmill era for a way to trim his production costs. . . . p. 13

Up to the Minute / SIGNIFICANT LATE NEWS

AT-A-GLANCE PETROLEUM WEEK Copyright ©

August 15, 1958

Private-brand marketers have formed a new association. It is the Society of Independent Gasoline Marketers of America (SIGMA), and some of the largest independents in the nation have joined it. Their aim: to unite this growing segment of the industry, and "to create a better understanding between independents and the remainder of the industry." P. L. Siteman, a Midwest independent, is president. The executive director is Harry S. Read, a former vice-president of Pan-Am Southern Corp.

•

The Shah of Iran has signed National Iranian Oil Co.'s joint-venture oil agreement with a small Canadian independent, Sapphire Petroleums, Ltd. The signing follows Senate approval of the pact, which covers two District III tracts along the Gulf of Oman (PW—Jul.11'58,p72). Terms of the arrangement are similar to Pan American's 50% joint-participation agreement (PW—May16'58,p56).

•

The Justice Dept. is resuming its investigation of alleged gasoline price-fixing in Indiana. A federal grand jury in Hammond, Ind., has been asked to press an investigation of pricing activities of 14 oil firms. Subpoenas are being issued, and testimony is expected to start soon. The new action follows a federal judge's dismissal of a similar case last month.

•

An oil lease in Los Angeles harbor has been ruled invalid, so the area may be opened to competitive bidding. The agreement nullified was between the city and Los Angeles Harbor Development Corp. The judge said the city council had not exercised sufficient "care and judgment" in the original lease.

•

Argentina is sending a money-finding mission to the U. S. With the Argentine door now ajar to U. S. oil firms, the Frondizi government sees this as a good time to seek the funds it needs for industrial development.

•

Gasoline distribution in the West will be affected by a labor row there, and the impact may grow. Currently, there is a strike by truck drivers, and a "lockout" by carriers who are members of the California Trucking Assn. If tank truck companies decide to go along with CTA, oil firms that rely on for-hire carriers will be hurt.

Meanwhile, in the Chicago labor dispute (page 46), contract negotiations scheduled for this week were postponed (at the request of the Teamsters) until next week.

•

There will be howls over the proposed restrictions on advertising along the new federal highway system. Secretary of Commerce Sinclair Weeks has outlined some of the billboard regulations: No signs within two miles of an interchange; six signs to each side for the next three miles, and only one to a mile thereafter. The size will be limited, too.

Congrats and $25 to J. E. ROBERTS, Sohio P. L. Co., 7438 Forsyth, St. Louis, Missouri.

Talk about team work . . . Lone Star Steel's folks always come through with plenty of API quality casing, tubing and line pipe for "coach" Joe Roughneck. Joe, symbolic heart of the oil and gas industry, knows that Lone Star is his dependable source of supply.

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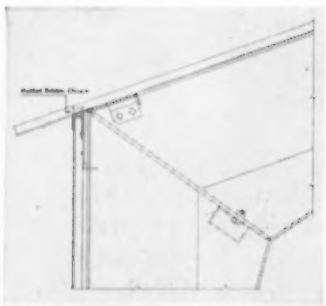

Section through eave showing molded rubber closure between siding sheet and roofing sheet. Also shown are eave strut and bracing connection to rigid frame.

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Here's ideal, low-cost, top-utility housing for oil field pump stations and compressor stations, refinery, bulk station operations. It's the new Truscon all steel "Budget Building."

Basic framework is of rigid frame design, shop fabricated from hot rolled structural sections, complete with connection plates and anchor bolts. Purlins and girts are cold formed channel sections.

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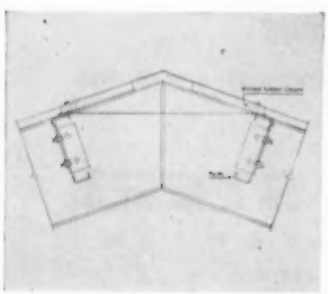
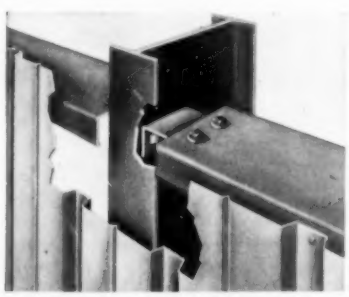
Truscon "Budget Buildings" are available for immediate delivery in widths of 32, 36, 40, 44 and 48 feet—12- and 14-foot heights, in any length necessary. Orders are filled fast from "off-the-shelf" stocks of pre-engineered materials. Roofing, siding, windows, doors and hardware are shipped to the job site as a package.

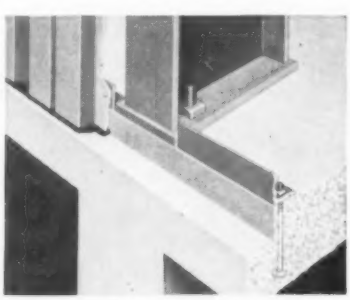
Learn more about Truscon "Budget Buildings". Send for full color brochure.



Section through ridge showing molded rubber closure between rigid cap and roof sheet. Also purlin connection to rigid frame. Connections make building weathertight.

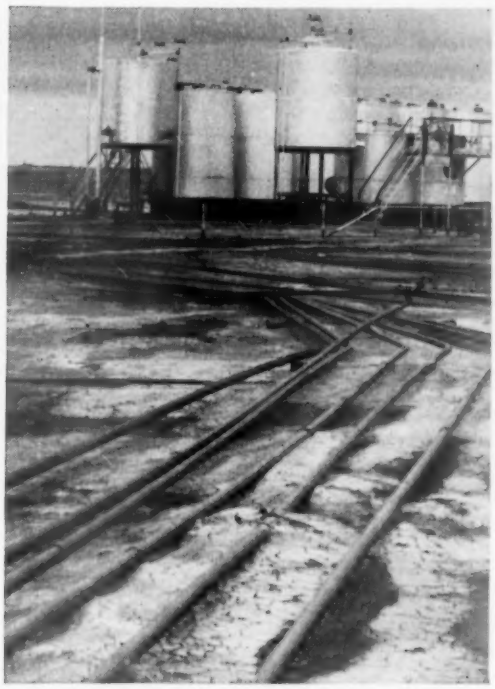


Section through sidewall at girt showing girt connection to rigid frame and fastening of sidewall to girt. Strong, sturdy building can be erected fast at the job site.



Section through sidewall at sill showing curb angle, rigid frame anchorage and siding detail. All connection plates, connection bolts and anchor bolts furnished complete.

REPUBLIC ALLOY STEELS provide the oil field equipment builder a wide variety of analyses to produce lighter, more efficient designs with no sacrifice of strength or safety. Hardness resists abrasion; toughness and ductility resist impact and heavy loads. Ideal for bits, tongs, elevators, blocks, chain, sucker rods, draw work components. For more information, send coupon.



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In Coatings, Watch Epoxy

New types of protective materials for prevention of external pipe corrosion—as well as new additions to old types—are vying for the attention of pipeline builders.

Electrolytic corrosion, caused by currents emitted from pipe metal, is the chief enemy of engineers fighting external pipe corrosion. This corrosion can be counteracted by halting the outflow of electricity. But there's only one way to do that—by enclosing the pipe in a material that will not leave even minute parts of the pipe exposed, regardless of time and soil conditions.

Although the protective coverings developed for pipe to date have many important advantages, no one has come up with the perfect material—the one that will eliminate such corrosion completely. (The "perfect material" would differ according to the conditions of each line.)

Perhaps no one will ever come up with the perfect covering, but manufacturers are trying.

Epoxy resin coatings are attracting a good deal of interest as external-corrosion preventives.

Epoxy resin coatings are made from petroleum-derived materials. They're said to combine into one package many of the individual advantages of other coatings.

One industry representative whose job it is to keep tabs on coating developments recently told PETROLEUM WEEK, "Within the next year or two, there will be marked improvement in epoxy resins [coatings], which could enable them to replace some present hot-enamel-type coatings."

Coast Paint & Lacquer Co. came out with one late last year (PW—Dec.20'57,p46). The coating, applied hot, is said to be especially fast-drying.

Coast is one of the 11 associated companies called Copon Associates. The other companies, spread around the country, are now either already marketing, or getting ready to market, the epoxy coating Coast developed last year.

Pittsburgh Coke & Chemical Co., which has marketed a cold-applied similar coating, "Tarset," for other industrial uses for a few years, is now making it available for pipeline application.

Pitt Chem's entry into the field of cold-applied epoxy resin pipeline coatings must certainly be taken as a sign of the times, because the company has for years been marketing a hot enamel coating. Now "Tarset" is moving into direct competition with the older Pitt Chem coating product.

"Tarset," a coal tar epoxy resin which provides protection in a temperature range from —30F to 400F, was recently applied on one system in Venezuela and is now ready for the U. S. market.

Other companies are known to be in experimental stages with similar epoxy type coatings.

...AND IN EPOXY

Specify BAKELITE BRAND

BAKELITE BRAND EPOXY

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For successful coatings both *inside* and *outside* petroleum pipes, BAKELITE Brand Epoxy Resins have been used in a wide range of demanding applications. Now is the time to test them yourself, and learn at first hand how effectively they work.

BAKELITE COMPANY WILL HELP YOU find the best coatings for your pipe by providing expert technical assistance. For information and the names of suppliers of coatings made with BAKELITE Brand Epoxy Resins, write Dept. HE-32L, Bakelite Company, Division of Union Carbide Corporation, 30 East 42nd Street, New York 17, N. Y. *In Canada:* Bakelite Company, Division of Union Carbide Canada Limited, Toronto 7.

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Depletion Foes Gain While Losing

Antidepletion forces mustered more votes in the U. S. Senate this year than they had in a long time. This no doubt means they will resume the attack with new vigor next year.

For the first time in seven years, foes of depletion gathered enough support for technical excise tax changes. Depletion opponents had chosen the minor tax bill as a vehicle for their oil and gas amendments.

The Senate defeated, 58-31, an amendment by Sen. William Proxmire (D., Wis.) for a graduated reduction in the depletion provision.

After the vote, Proxmire said he was "tremendously encouraged." He recalled that the last Senate roll-call vote was in 1951, and depletion opponents at that time managed only nine votes against the current 27.5% level.

Time is on our side, and we should catch up with this in the next two or three years," Proxmire said.

Proxmire's amendment would have maintained the 27.5% depletion for taxpayers grossing less than $1-million, but would have reduced the percentage to 21% for gross incomes between $1-million and $5-million. Above $5-million, depletion would have been reduced to 15%.

An amendment by Sen. John J. Williams (R., Del.), to cut depletion to a flat 15%, was beaten by a 63-26 vote.

Williams, until Proxmire's arrival in the Senate, had been the main foe of the depletion provision. He offered a similar amendment last year, but did not get a sufficient show of hands to force a roll-call vote.

Debate on depletion was the longest and most heated in the Senate in years. The arguments consumed 44 pages in the Congressional Record.

Under attack by Proxmire, Williams, and Sen. Paul Douglas (D., Ill.), the depletion percentage was defended mainly by Sens. Mike Monroney (D., Okla.) and Ralph Yarborough (D., Tex.).

Ten Republicans and 21 Democrats voted for the Proxmire amendment.

They were Sens. Aiken, Carroll, Case (N. J.), Church, Clark, Douglas, Ervin, Gore, Green, Humphrey, Jackson, Javits, Jordan, Kennedy, Langer, Lausche, Magnuson, Mansfield, McNamara, Morse, Neuberger, O'Mahoney, Pastore, Potter, Proxmire, Purtell, Smith (Me.), Symington, Thye, Wiley, and Williams.

Six senators who voted for Proxmire's amendment voted against the Williams amendment. They were Sens. Carroll, Douglas, Jordan, Kennedy, Mansfield, and O'Mahoney. Sen. Bricker voted for Williams but against Proxmire.

Of seven absentees, three would have voted for the Proxmire amendment. They were Sens. Kefauver, Hennings, and Payne.

Venezuela: Oil Labor Speaks Up

Venezuelan oil workers, relatively voiceless under the former regime, were speaking up on oil policies this week during a national oil labor convention.

The convention, which began Aug. 6 and was continuing this week, is being attended by some 300 delegates representing 40,000 oil workers.

Venezuelan labor leaders presented a series of resolutions calling for a ban on further oil concessions, a 75-25 split in oil profits, a national monopoly on the domestic products market, and creation of a national tanker fleet.

Approval of most, or all, of these resolutions by the convention was expected.

Just what effect these resolutions will actually have on the policies of the new government remains to be seen. But the indications have been that the government may tend to give labor's views considerable weight.

At any rate, the labor convention drew widespread attention, with representatives of the government junta and of business and civic groups attending.

Union leaders, recalling a token general strike in July to support the junta when it was threatened by a military coup, promised again this week to defend the government "with our lives if necessary."

Junta President Wolfgang Larrazabal responded: "Be assured that I will call on you if I need you."

Oil workers are expected to adhere to a management-labor truce signed earlier by a national labor committee and the Confederation of Chambers of Commerce.

This agreement provides for voluntary arbitration machinery for labor disputes.

About half of Venezuela's oil workers are signed up in 40 unions. And union leaders say they are confident that membership will climb considerably higher under the "more favorable atmosphere" of the present government.

Margin changes indicate that . . .

Inland Refiners Must Integrate

Instability of gross margins indicates that isolated, nonintegrated refiners can gain a semblance of financial security only by "backward or forward integration."

That's the conclusion reached in a study by the management and economic consulting firm of Bonn, Watkins, Jason & Co. of gross margins of refiners, wholesalers, and retailers in the Mid-Continent refining area during the past decade.

Gross margins of refiners were less stable than those of either wholesalers or retailers—which, according to the consulting firm, "reinforces the industry belief that the isolated, nonintegrated refiner is exposed to serious problems of revenue variation.

"Only by backward or forward integration into areas where the sharp competitive winds are moderated either by government controls, or at the marketing level, by product differentiation and personal relationships, can the refiner's financial position be

given a semblance of security," the consultants say.

Mid-Continent refinery margins have ranged from a low 48¢ per bbl. of crude processed in 1949 to a high of $1.20 per bbl. in 1956, a spread of 72¢.

The refinery gross margins reflect the differences between posted prices of 36-gravity Mid-Continent crude and refiners' product realizations. The latter are based on Platt's Oilgram lows from Oklahoma, weighed by relative refinery yields of crude processed in the Mid-Continent.

By comparison with the 72¢-a-bbl. spread in the gross margins of refiners during the ten years studied, 1948-1957, gross margins available to wholesalers in five cities in Oklahoma, Kansas, and Missouri showed a spread of only 27¢ a bbl. They ranged from a low of $1.83 in 1956 and 1957 to a high of $2.10 in 1954, based on yield realizations of light products only.

For retailers in the district, the spread in gross margins amounted to a maximum of 42¢ a bbl., based on the service station price of regular-grade gasoline. The range was from a low of $1.77 a bbl. in 1954 to a high of $2.19 in 1956.

The variability of refinery margins is attributed to the fact that crude prices tend to be more stable than prices for refined products, which are generally more sensitive to changes in market conditions. Thus, crude and product prices do not move in unison.

Crude postings increased by 50% a bbl. in major Mid-Continent fields during the ten-year period of the study —25¢ in mid-1953 and 25¢ in early 1957.

Oklahoma refinery prices of regular grade gasoline increased from $4.40 a bbl. to $5.10 between 1948 and 1957. Kerosine prices advanced from $3.98 a bbl. to $4.30 in the same period. Distillate prices, though, rose very little, and heavy fuel prices declined slightly.

In combination, the advances in all product prices in the Mid-Continent during the ten years covered only about 75% of the increase in crude prices in the same period, according to the findings of the study.

To maintain margins in the face of rising crude costs, refiners made substantial changes in their yields, switching from low-value products, whose prices were falling, to higher-value products, which were advancing in price.

Gasoline yields of Mid-Continent refiners, for example, rose from 46.3% in 1948 to 50.7% in 1957. Yields of intermediates (kerosine, distillate, and jet fuel) increased from 27.4% in 1948 to 32.3% in 1957. But yields of residual fuel dropped from 16.6% in 1948 to 4.7% in 1957.

Refinery margins are highly vulnerable in periods of temporary oversupply, while crude postings—the major cost item to refiners—appear relatively unresponsive to short-term changes in market conditions.

ACT Acceptance Grows in Texas

Automatic custody transfer systems have proved to be so reliable that the Texas Railroad Commission now often accepts them routinely, without a test period.

Until recently, the commission was reluctant to approve the use of automatic testing and metering equipment without careful scrutiny and actual field evaluation.

But last month, accenting its new attitude, the commission granted two applications on a permanent basis, simply upon applications by Shell Oil Co. and by Humble Oil & Refining Co. and Humble Pipe Line Co.

The commission is requiring only that the equipment involved has been thoroughly tested previously at other locations. A test period is required now only when a new type of equipment is to be used.

According to Commissioner Ernest O. Thompson: "Wherever similar equipment has been tested and found accurate, the commission approves these ACT systems. They have, according to testimony we have received, served a good purpose in several ways.

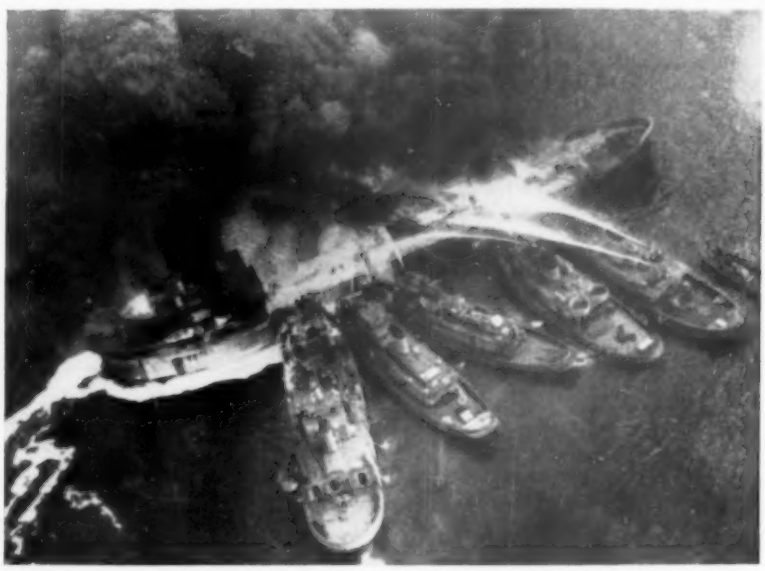
"Automatic measuring seems to be even more accurate than manual gauging, plus the fact that there is a greater saving in lighter ends through having a closed system."

"To my mind, this is one of the economies that the industry must look to to overcome ever-increasing costs."

It is expected that acceptance of ACT will grow even more routine.

The Shell application, for the Wasson field, Gaines and Yoakum Counties, West Texas, and the Humble application, for the Lovells Lake field, Jefferson County, Texas Gulf Coast, involved equipment identical with that used in previous systems.

However, it is expected that companies eventually will be able to install such systems without prior approval of any kind—simply filing notice that the equipment is being installed.



Tanker Collision Pinpoints Control Problem

Last week's catastrophe near Newport, R.I., added a fiery banner to the pressing concern over tanker collisions.

The picture shows fireboats battling on the S.S. Gulfoil after the ship collided with the coastal tanker S.S. Graham in dense fog. The Gulfoil was empty, but the Graham was carrying 1-million gal. of gasoline. Sixteen men were known dead and two were still missing this week.

Lowly Windmill Helps Turn a Profit

Editor's note: Last year Petroleum Week readers chuckled over a story about an oil man who didn't want any more business (PW—Jun.28'57,p14). Here is another story about an equally unusual oil man and his equally unusual opproach.

Ideas are apt to spring from any place. For instance, a brisk breeze blowing in his face gave Hugh Burns Hutchinson, of Long Beach, Calif., an idea on how to trim his production costs: Use windmills.

Hutchinson, a Scotchman who cut his oil teeth in the Signal Hill boom 36 years ago, and who later worked on construction jobs around the world, usually draws on his long experience for guidance in operating his 255-acre lease at the foot of the Conejo grade on Highway 101 near Camarillo, in Ventura County.

But it was the breeze, and not his experience, that helped him this time.

In visiting his lease, trying to figure ways to make it more profitable, he had noted that almost daily there was a brisk wind blowing up the slope of his lease.

So now the breeze powers windmills, which in turn, power the pumps at his wells.

This move eliminated the fuel costs which, Hutchison says, he found "ruinous" soon after he took over the lease four years ago and started operating as the Burns Oil Co.

Now, Hutchinson says, the only fuel cost is the cost of the gasoline he uses in driving out to the lease once a week or so.

The six wells at Conejo are all extremely shallow, and all are strippers. They range in depth from 30 ft. to 100 ft., thus making the windmills practical.

Production varies with the wind, ranging from as little as ⅓ b/d to as much as 1 b/d. "All zones are open," Hutchinson says. "Long before my time, some jarhead pulled all the casing out."

Hutchinson says the windmills work "wonderfully well." Pumps are the conventional plunger type, and ⅜-in. pipe is used for sucker rods.

NO FUEL BILL is involved at this lease because windmills do the pumping. And the operator says nuclear tests sometimes help by stirring up the breeze.

Hutchinson credits new-fangled nuclear power with giving his old-fashioned windmills some boost.

He insists that test explosions of nuclear bombs in Nevada stir the atmosphere to such an extent that the winds that turn his windmills are brisker—at least for a time.

Windmills are not the only innovation. Another interesting device is a "chain lift" in one of the wells which has a high fluid level (7 ft. from the surface).

In this well, an endless wire link-type chain runs over a power pulley at the surface and around a pulley suspended about 20 ft. down the hole. A "one-lung" gasoline engine turns the power pulley at 7 rpm. and pulls the upcoming leg of the chain through a home-made stripper, which peels off the heavy crude.

Hutchinson has numerous plans for the future, including a do-it-yourself roadside refinery.

The crude cuts 34% lube oil and 45% steam cylinder oil, making it possible for farmers in the area to use it directly in tractor transmissions and truck differentials.

It would just be one step further, Hutchinson says (with a tip of his tongue in his cheek), to build a little roadside refinery and let the motorist pump and refine his own oil. Presumably, the motorist would be able to blend the grade he desired, thus putting Hutchinson one up in the multiple-grade race.

More seriously, Hutchinson plans to drill additional holes. He presently is assembling a small rotary rig for the job.

Hutchinson's wells are all that remain of the old Conejo field, which was discovered in 1892 by Union Oil Co. of California. An unknown number of wells were drilled—between 50 and 100—and the field prospered for years.

When the depression hit in 1929, the field was virtually abandoned. Union gave up its lease, and in subsequent years various individuals leased rights to produce the wells on a "poor boy" basis.

Texas Calls Out Its Navy

Texas is seeking to use the legendary Texas navy to help establish its claim to a three-league offshore boundary.

What the state is seeking to prove, in a lengthy brief to be filed this week with the U. S. Supreme Court, is that Texas actually did have a navy at one time, and that it "dominated" the Gulf of Mexico in the years before the United States annexed Texas.

This approach stems from the fact that the federal government, which wants to apply a three-mile limit to the state's offshore territory, contends that Texas never controlled the tidelands. U. S. attorneys are inclined to label the state's claim to a navy as "just a Texas brag."

But Texas Attorney General Will Wilson, who is submitting the brief, claims that Texas had six vessels in the days when it was a republic. These vessels, Wilson says, performed the traditional functions of a navy of an independent nation.

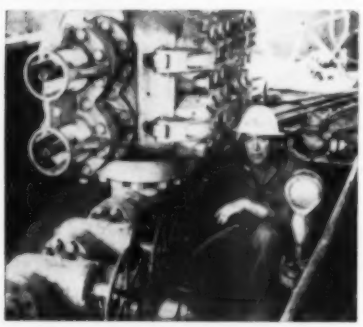
(Gov. Price Daniel recently launched a campaign to get all boat owners to sign up in a new "Texas Navy" as boosters of the state's claim to the offshore lands.)

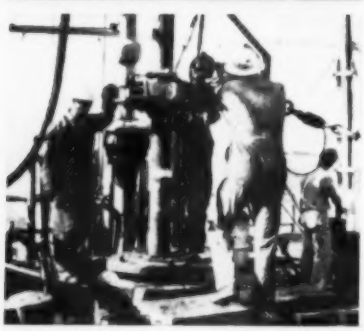
The angle of the Texas navy is only one of several points the state is seeking to make in its current fight to get a 10.5-mi. offshore boundary.

A key issue is what rights Texas did —or didn't—get under the Submerged Lands Act passed by Congress in 1953.

One major presentation will be records of negotiations leading up to the Treaty of Guadalupe-Hidalgo, which ended the war between the United States and Mexico. That treaty, Texas claims, recognized a 10.5-mi. boundary off the mouth of the Rio Grande River.

The federal government's claim affecting offshore lands of all Gulf of Mexico states will be argued before the Supreme Court starting Oct. 13.





Casing Record Set In Texas Deep Test

This tubular display is just part of the material required for the record-depth Phillips Petroleum Co. No. 1-EE University, Pecos County, Texas. The 7-in. and 7⅝-in. casing is in the foreground (above). Drill pipe is in the rear.

Further drilling of the test (now bottomed at 24,357 ft.) is suspended pending mill delivery of about 10,000 ft. of special high-test drill pipe. The test is still above its Ellenburger objective.

The wellhead assembly (left) consists of standard units made by National Supply Co. The three blowout preventers mounted on the assembly stayed on while the casing was being run.

Crewmen (bottom left) make up the last joint of the record-breaking 22,919-ft. string of casing that went into the test.

Unique School Aids Oil Fire Control

The Odessa (Tex.) fire department is staging again this year a program aimed at helping the oil industry control fire hazards.

Officially, it's the second annual Fire Research & Development Center. It will be held Sept. 29 through Oct. 1.

The fire-control laboratory is on a large tract of land near Odessa. Here various types of oil equipment are gathered to provide the setting for fire demonstrations.

During the special program this year, nine oil fire "problems" will be presented in actual, full scale demonstrations.

For instance, there will be a fire in an oil pit 100 ft. in diameter. Another fire will occur at a fracturing demonstration, and a third at a pumping station.

There will be a three-level fire, involving gasoline, a fire at a cat cracker, and tank fires.

The fires vary in size and complexity in order that fire fighters may learn the application and the limitations of various fire fighting methods and facilities.

A special area has been set aside for any firm or fire department to set up any special fire problem.

Thus if an organization wishes to demonstrate its own techniques, or to seek suggestions from others on a particular fire problem, it is invited to do so.

Also, there will be an exhibitor's area in which various types of fire fighting equipment will be displayed.

Oil and gas firms, together with supply and servicing companies, have cooperated with the Odessa group in developing the program.

Training at the center is under the direction of Charles Meadows, chief of the Odessa Fire Dept., and E. W. Parker, training officer in the department. In addition, training advice is also given by representatives of cooperating oil, chemical, and service companies.

What's New / IN THE INDUSTRY

An immediate adjustment is necessary in refinery yields, according to P. C. Spencer, chairman of the board of Sinclair Oil Corp. Spencer said last week that current yields of 53% gasoline and 25% distillates, if continued, will result in a 22-million-bbl. shortage in heating oils in the fourth quarter. He warned that, while only a "minor change" in yields now could solve the problem, a few months from now high refinery runs, which might make gasoline stock burdensome, will be the only answer to the heating oil shortage.

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Look for an increasing flow of information on the operations of the Russian oil industry. The Commerce Dept.'s Office of Technical Services intends to translate a good many more Russian technical publications in the natural gas and petroleum fields. Starting in September, it will offer subscriptions to 141 translated Russian journals, many dealing with oil and gas.

•

There's growing concern that, long range, a good deal of public lands may be closed to mineral development. Such fears have been aroused by present membership of the newly-created National Outdoor Resources Review Commission, which will make recommendations on use of the nation's outdoor recreation resources in September, 1961. A majority of the eight Congressmen on the commission have been called "unfriendly" to the industry. Seven public members of the commission will be selected in about three weeks.

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Work on the first Hawaiian refinery will begin—finally—this fall. After many months of delay, Standard Oil Co. of California, Western Operations, Inc., now says that it will break ground for the 32,000 b/d plant in October. It expects to have the refinery on stream by the end of 1960.

•

Richfield Oil Corp. of California is considering the use of nuclear energy for oil recovery, probably from Canada's Athabasca tar sands. A Richfield spokesman acknowledged last week that Richfield is one of the companies conducting advanced investigations on the use of nuclear energy in oil recovery (PW—Aug.1'58,p12). Richfield now holds about 1-million acres in the Athabasca field.

•

It would take a whale of a second half to get most oil company net earnings for this year above 1957. Five more companies have just joined the ranks of those reporting substantial drops in net profit as compared with this time last year (PW—Aug.8'58,p16). They are Standard Oil Co. (Ohio), 9.4%; Creole Petroleum Corp., 27.4%; Union Oil Co. of California, 31.5%; Cities Service Co., 32.2%; and Pure Oil Co., 43.9%.

•

John F. Maher is the new president of Reed Roller Bit Co., and Ray O. Shaffer is the new board chairman. Maher, who will also be a board member, was president of Oil Center Tool Co. Before that, he was owner of his own chemical and oil well supply firm. Shaffer, president of Welex, Inc., will continue to hold that position. Rex G. Hamaker, Reed's former president, has retired.

INSIDE *Slant*

MUM'S THE WORD

Antitrust law interpretation has taken some strange turns through the years. Last week a new twist was added. And it is a lulu.

Victor Hansen, the Justice Dept.'s antitrust chief, said the steel industry "used" the trade press—and newspapers—in a sort of conspiracy to hike steel prices.

The gist of the untested new concept is that steel firms exchanged pricing information through the press while the price hike was developing.

He specifically called attention to a published remark by an Armco official that it would withdraw its price boost unless U.S. Steel raised prices, too.

Thus, following Hansen's line of reasoning, U.S. Steel found out through the press that a little firm couldn't make a price hike stick unless the big producers followed suit.

This may be news to U.S. Steel. But somehow we doubt it. Most people are aware that a little fellow with a high price isn't going to have much luck against a big competitor with a lower price.

Under Hansen's concept, companies would have to make their price moves in secrecy.

We had always thought conspiracy thrives best in secret—not in public.

Leroy Menzing
EDITOR

Looking Ahead in Washington

McGraw-Hill
Washington
Bureau
August 15, 1958

Now you will hear debate over just what the new trade bill means to oil imports. Congress cleared the four-year legislation this week, amid claims by the Independent Petroleum Assn. of America and Sen. Robert S. Kerr (D., Okla.) that the new bill is a "mandate" for oil import controls. But don't expect the Administration to agree.

The voluntary program will continue to be favored by the Administration. So far, no one has convinced the government's top oil policy-makers that the voluntary approach has not worked. Nor did Congress, in revising the trade bill, insist on mandatory controls. The argument will come over new guide lines laid down by Congress—requiring the President to consider new factors, such as the level of domestic production, when determining whether foreign oil is threatening U.S. security.

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The Interior Dept. is getting ready for a new round of hearings on oil import allocations. Matthew V. Carson, imports administrator, has not yet set any dates, but still plans to get started next month. The hearings will be for companies wanting new or increased crude oil allocations in Districts I-IV. Latest total of requests: 76 applications for imports of 601,674 b/d.

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A new Senate subcommittee will be created to improve relations between the U.S. and Canada. The Senate has approved a resolution setting up a new unit of the Foreign Relations Committee, and has urged the House to take part, too. Some of the problems the legislators will explore include petroleum policy differences between the two countries, especially on crude oil and natural gas exports from Canada to the U.S.

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Rep. Wright Patman (D., Tex.) is again hitting at the "bigness" of oil companies. The Texas lawmaker recently testified before the House Judiciary Committee on his bill (HR-10243), which would allow private antitrust suits under the Robinson-Patman act's injury-to-a-competitor section. Earlier this year, the U.S. Supreme Court ruled in a milk sales case that only the Justice Dept., through criminal action, could charge a seller with using unreasonably low prices to hurt a competitor. Patman cited the decreasing number of independent refiners in the U.S., and said his bill is needed to keep them in business against major integrated oil companies.

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Government land officials want legislation limiting subdivision of oil and gas lease areas. The Interior Dept. is working in Congress to bar subdividing which covers less than 640 acres.

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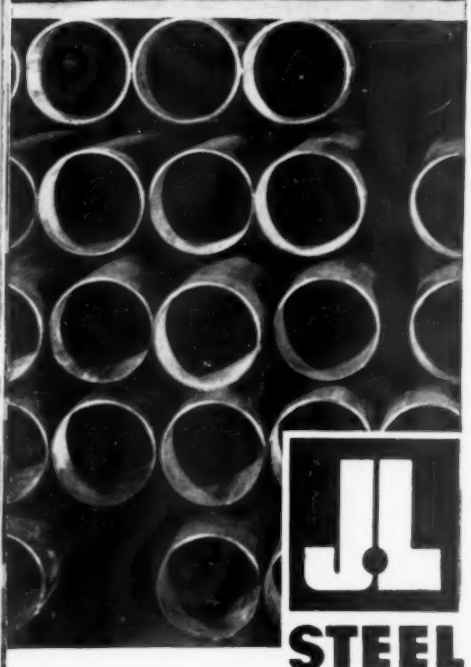
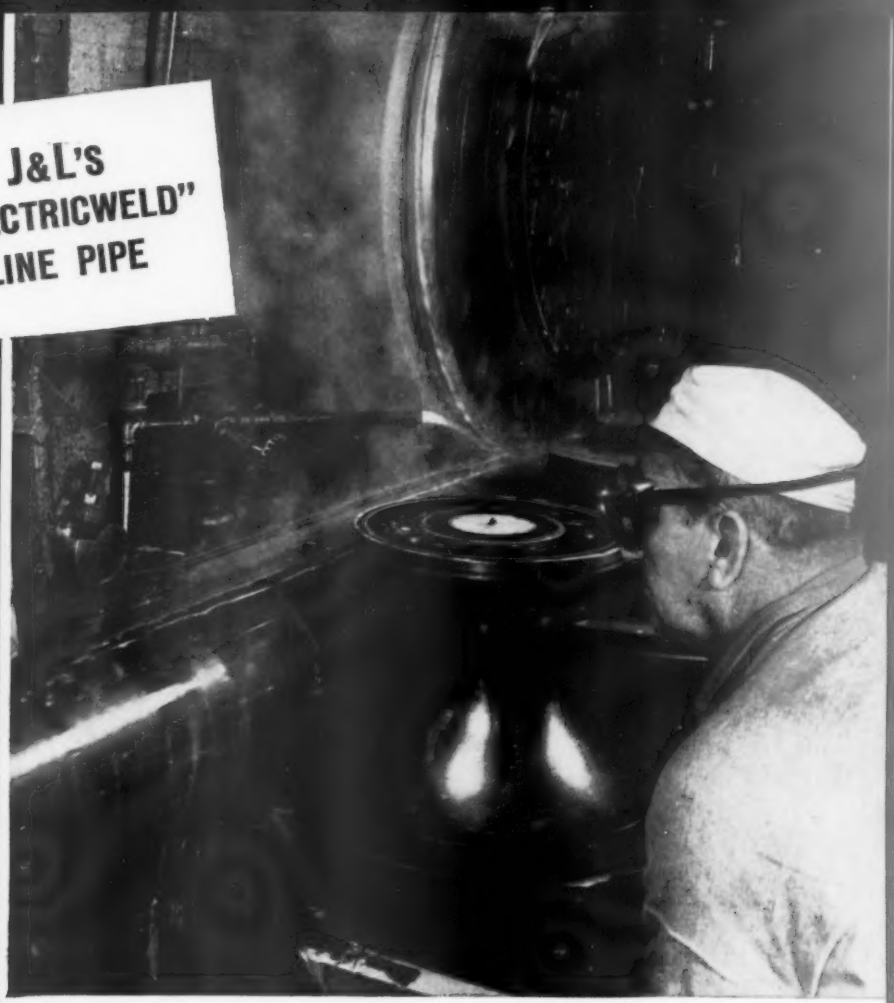
Oil men are wary of the idea that a bigger Democratic majority in Congress means better chances for a gas bill. Look at the seats that the Democrats hope—and presently are expected—to gain from the Republicans. Most are in consumer states. So gas bill voting probably won't be changed much.



J&L'S
"ELECTRICWELD"
LINE PIPE



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Rigid quality control has top priority in production of J&L's Electricweld pipe for gathering, distribution and transmission lines.

Every length is pressure-tested under the specified A.P.I. or A.S.T.M. hydrostatic test requirement both in time and in degree of pressure. Lengths to 60 feet speed installation, reduce number of field welds.

Electricweld pipe is available from 6⅝ inches through 12¾ inches O.D. Electricweld line pipe is manufactured to appropriate A.P.I. and A.S.T.M. specifications.

In addition to **visual inspections,** each length of pipe is given a **crush test,** to determine weld strength and quality of steel. It is subjected to a pressure test on one of the largest and most modern **hydrostatic testers** in the world. As an additional precaution and assurance to the customer, Jones & Laughlin is giving both ends of each joint a **magnaflux examination.**

Get complete information on Electricweld line pipe from your J&L distributor or write direct to Jones & Laughlin, 3 Gateway Center, Pittsburgh 30, Pa.

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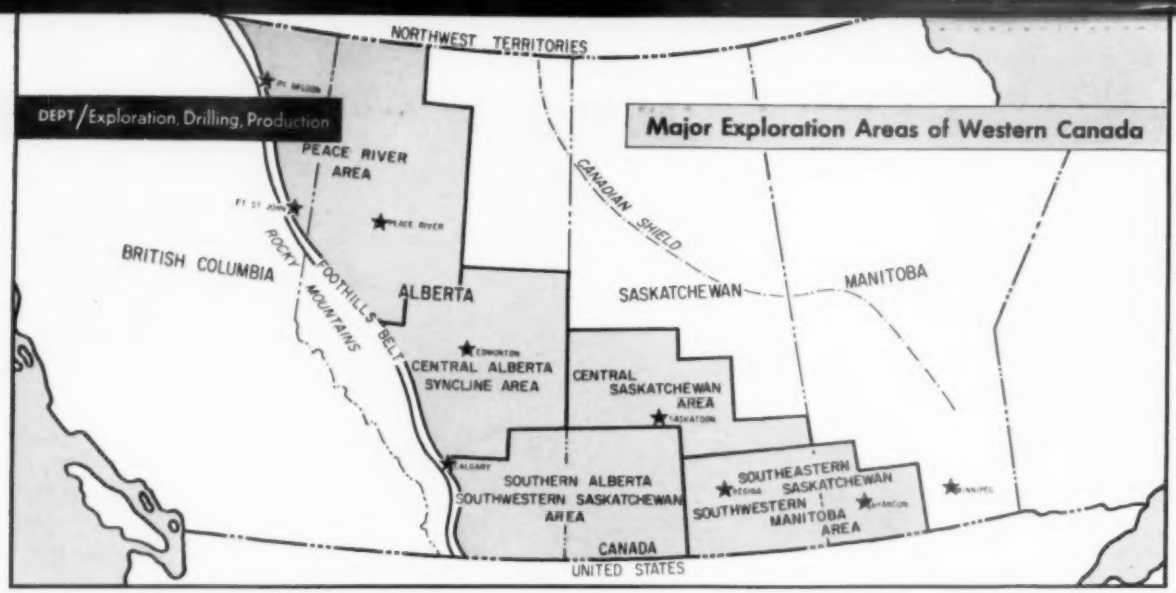


Where to Drill in Western Canada

SYSTEM	FOOT HILLS BELT	PEACE RIVER AREA	CENTRAL ALBERTA SYNCLINE	SO ALBERTA & SW SASK.	CENTRAL SASKATCHEWAN	SE SASK & SW MANITOBA
CRETACEOUS	● Blairmore	☆ Cardium ☆ Peace River ☆ Spirit River ☆ Bluesky ☆ Gething ● Cadomin ● Nikanassin	● Belly River ☆ Cardium ● Viking ● Blairmore	☆ Medicine Hat ● Bow Island ● Blairmore ● Cutbank	● Blairmore	● Blairmore
JURASSIC				● Swift ● Sawtooth		● Sandstones
TRIASSIC	☆ Sandstones	● Upper Ls ● Middle Ss				
PERMIAN PENNSYLVANIAN		● Dolomites				
MISSISSIPPIAN	★ Turner Valley ★ Elkton	● Debolt	★ Turner Valley ★ Elkton ★ Pekisko ★ Banff	★ Turner Valley ★ Elkton ★ Pekisko ★ Banff	● Banff	● Charles ● Mission Canyon ● Lodgepole
DEVONIAN	☆ Wabamun ☆ Dolomites	☆ Wabamun D 1 ☆ Nisku D 2 ☆ Leduc D 3 ☆ Beaverhill Lake ● Slave Point ☆ Gilwood Ss	★ Wabamun D 1 ★ Nisku D 2 ★ Leduc D 3 ★ Cooking Lake	● Jefferson		
SILURIAN ORDOVICIAN CAMBRIAN PRECAMBRIAN		● Granite Wash				

Main Producing Zones In Each Area

● Oil ☆ Gas ★ Oil and Gas ▨ Sediments Missing

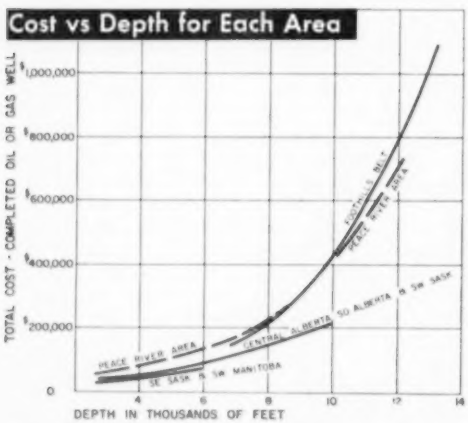
GEOLOGY: These are the geologic strata in which oil and gas are found in Western Canada. The major producing areas correspond to those shown on the map above.

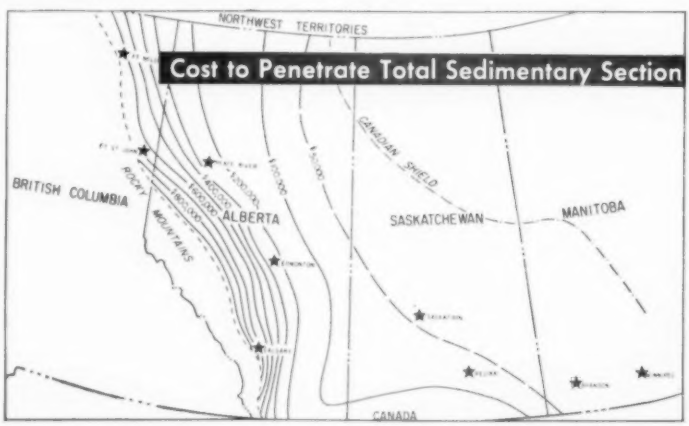
Where should you spend your exploration budget in Western Canada?

A special report on Canada, prepared by Alex W. McCoy & Associates, Inc., Calgary, for International Geological Engineering Co., Tulsa, helps answer this question.

According to IGE president Wayne E. Swearingen and secretary A. Rowland Boucher: "There's a wide range of economic opportunity. By distribution of rocks, vast reserves remain to be found in Western Canada. There are high-cost areas, in which the targets are fields with mammoth reserves. But the operator with a small budget has well over half of the Western Canada sedimentary basin in which to operate, at costs about the same as in the U.S. Mid-Continent area."

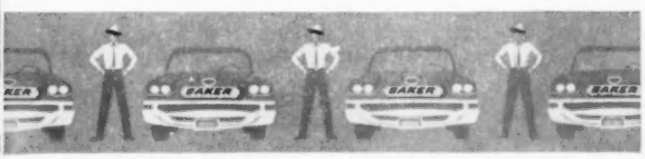
The cost of drilling in Western Canada is shown on this page. For a close look at where to look, turn to page 21.

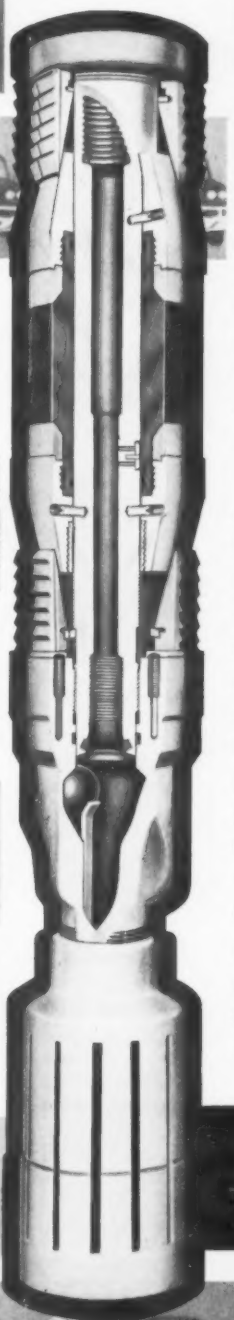




WHAT IT COSTS: Average drilling costs for each major producing area are shown in the chart (left). The price of drilling to basement rock is shown in the map (right). More than half of the area can be drilled to basement for less than $100,000.

DEPENDABLE *BAKER* SERVICE





DEPENDABLE *BAKER* CEMENT RETAINER

PRODUCT NO. 400

There is nothing "just as good" as a Baker Cement Retainer for placing cement, plastic, acid or other fluids through tubing or drill pipe—at the most effective point behind casing or liner—around the shoe, or in open hole below the shoe. Dependable pack-off, known drillability, and the presence of a back-pressure valve which automatically holds squeeze pressure against the formation, bring peace of mind on all squeeze jobs.

SET POSITIVELY—DRILL UP EASILY

Baker Cement Retainers are set accurately and positively on tubing, drill pipe, or a wire line. Opposed slips prevent movement in either direction, and the resilient packing element is backed up by metallic rings to prevent packing element flow under the highest pressure differentials. Made of drillable CAST IRON or extremely drillable MAGNESIUM for any application or well condition.

Baker CEMENT RETAINER SERVICE is available anywhere, anytime. Just call the Baker Trained Serviceman in your area.

BAKER
OIL TOOLS, INC.
HOUSTON • LOS ANGELES • NEW YORK

and the business goes to the service stations that sell tire chains *before* the snow flies. Dealers are like most drivers . . . they wait until they're in trouble before they get the chains they need. That's bad for everybody. The car owner doesn't have his tire chains when he needs them . . . you and the dealer lose a good *profitable* sale.

New Campbell "Jiffy" Chains go on in less than a minute a wheel. No jacking or moving the car. Campbell "Jiffy" Tire Chains have the sales advantages your dealers can use to sell chains "before the snow flies."

Tire chains are one of the sweetest profit items in the entire TBA line-up, *and one of the least promoted at the dealer level* . . . unless you handle a chain line that does a real merchandising job for you. Handle Campbell Chain and you'll know that "there's no business like snow business."

CAMPBELL CHAIN

CAMPBELL CHAIN *Company*

York, Pa.—W. Burlington, Iowa

E. Cambridge, Mass., Chicago, Ill., Portland, Ore., Seattle, Wash.

Los Angeles, Sacramento, San Francisco, Calif.

Occurrence of

Oil and gas production are found in the following geological systems in Western Canada:

1. Cretaceous. Rocks of this age yield about one-third of the oil and one-half of the gas found in Western Canada. The Athabasca tar sands, in the northern part of Alberta, are also of Cretaceous age, and contain a vast reserve of petroleum, not yet economically recoverable.

2. Jurassic. At this stage of development, Jurassic sediments are not of great relative importance in Western Canada. However, about one-third of the oil found in Saskatchewan is produced from Jurassic sediments.

3. Triassic. Rocks of this age are present in the subsurface in only the Peace River area and the northern part of the foothills belt. At least 90% of the reserves of oil and gas in British Columbia are found in Triassic sediments.

4. Permo-Pennsylvanian. Like Triassic sediments, rocks of this age appear to underlie only the Peace River area and the foothills belt. Sediments of this age, however, are of lesser importance in relation to the overlying Triassic zones. The Permo-Pennsylvanian contains sizable gas reserves in the Fort St. John field of British Columbia.

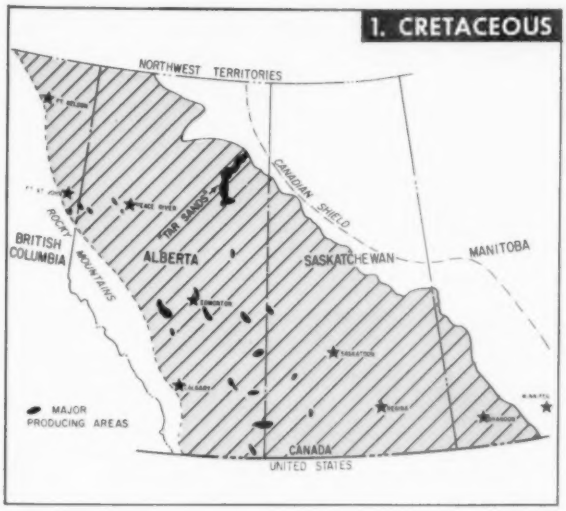
5. Mississippian. These sediments are present over a large area in Western Canada. Although the Mississippian rocks are not yet well evaluated, about one-half of Saskatchewan's oil and all of Manitoba's oil comes from these zones.

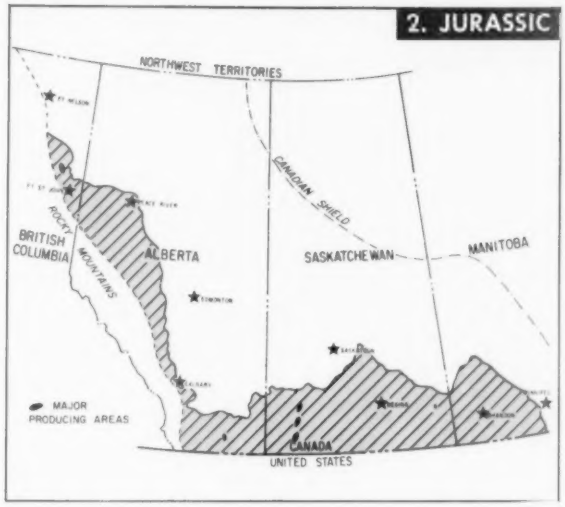
6. Devonian. The most famous fields in Western Canada produce from the Devonian Leduc reefs. The Leduc has been the most important producing zone in the Devonian to date. The discovery of the Leduc field, south of Edmonton, Alta., in 1947, was the start of the modern era in exploration in Western Canada.

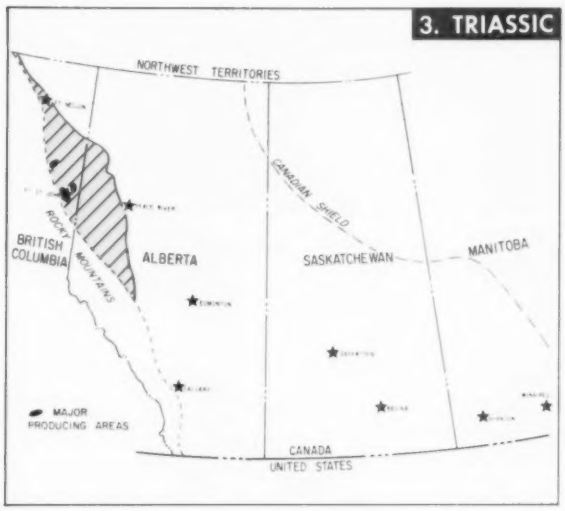
The newest in a long list of Leduc discoveries is a prolific gas producer opened by British American Oil Co., Ltd., and Shell Oil Co. of Canada, Ltd., at Berland River, in western Alberta. The well opened a 653-ft. section of Leduc reef, at a depth of about 12,000 ft., one of the thickest Leduc pays ever found. The wildcat, which is located 30 mi. west of production in the Windfall area, flowed gas at rates up to 27-million cu. ft. per day.

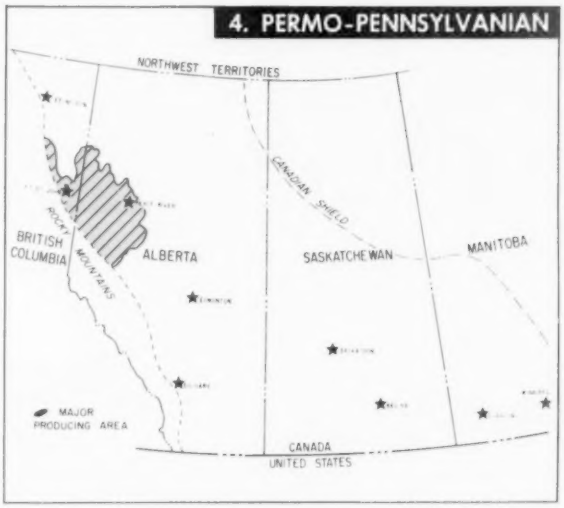
Though the Leduc remains the most prolific Devonian formation, an increasingly greater percentage of oil and gas reserves are being discovered in the Wabanum (D-1) and Beaverhill Lake formations.

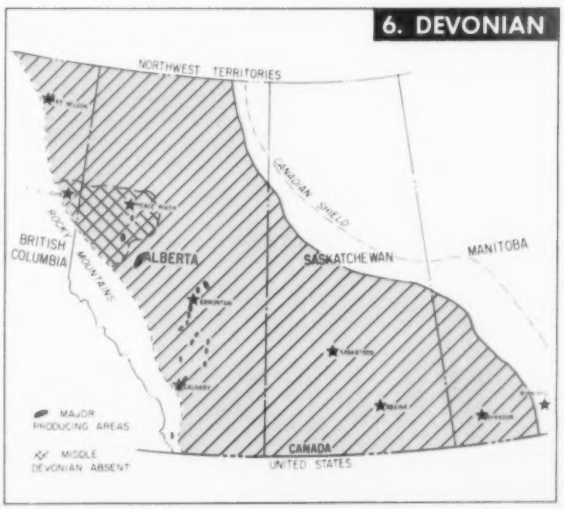
Geological Systems in Western Canada (story starts on page 18)

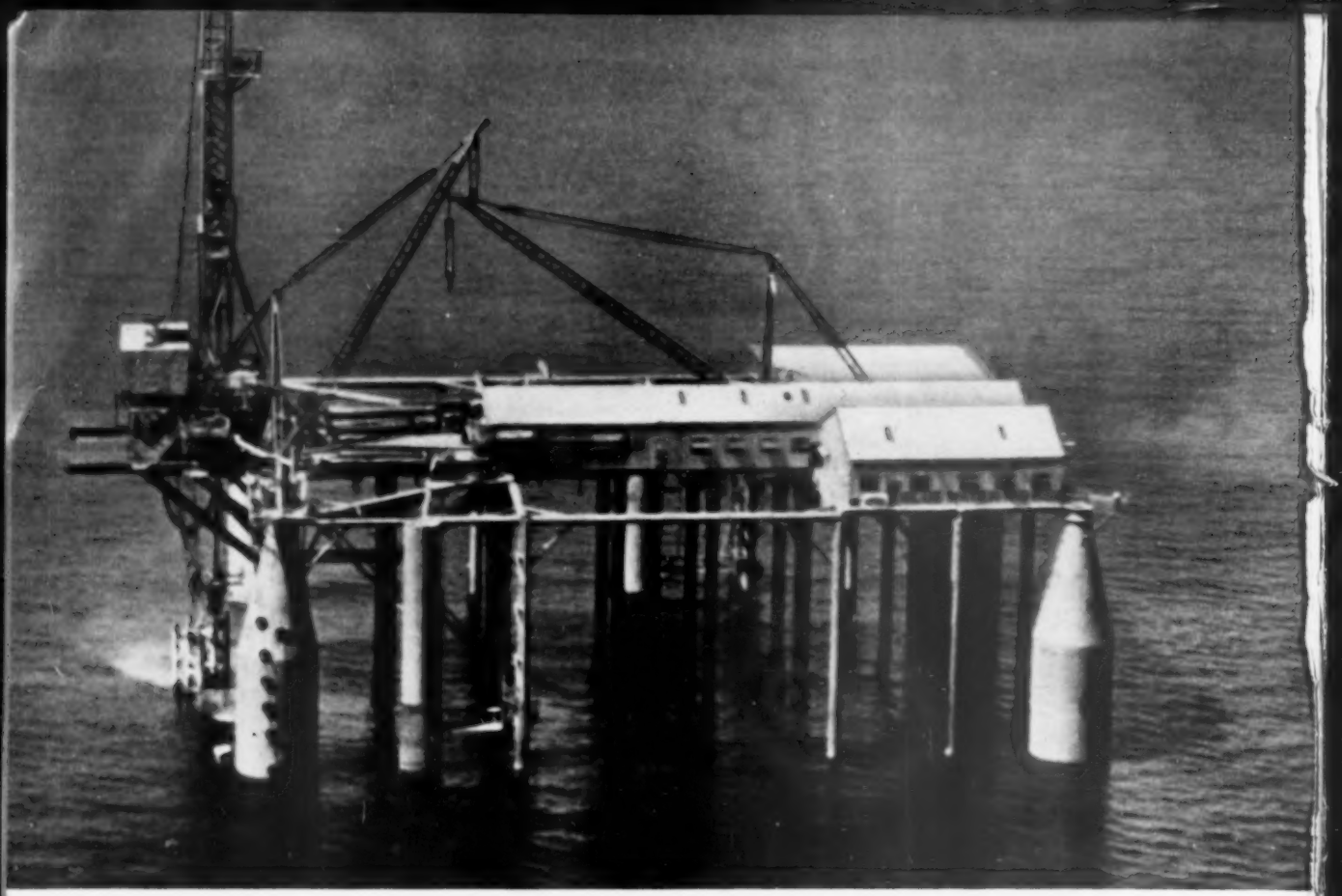




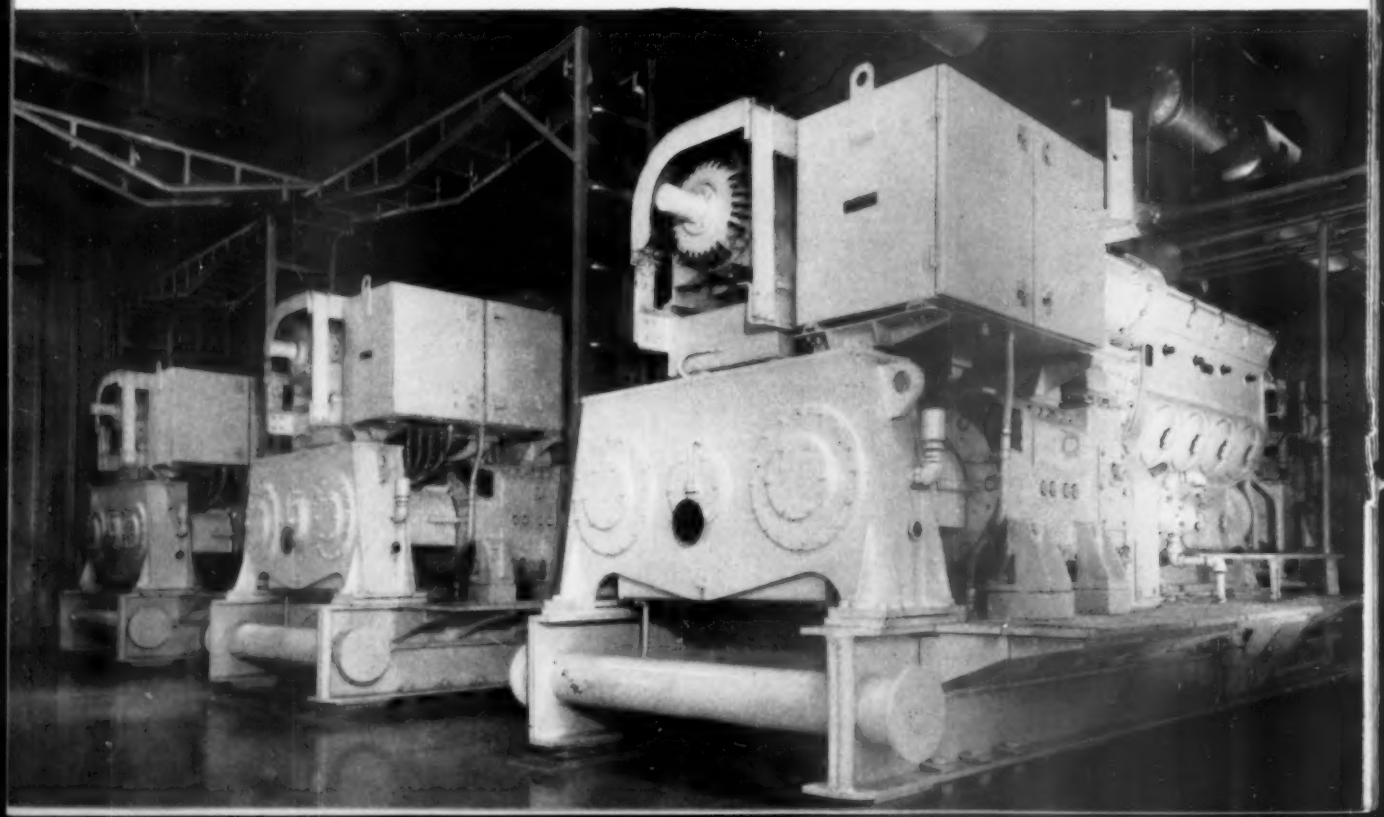








Blue Water Rig No. 1 was constructed by Ingalls Shipbuilding Corporation, commissioned in September, 1957. Platform measures 242′ by 202′. Unit can drill in 70′ of water.



Three 900 horsepower Electro-Motive generator sets are shown here in white-painted engine room. Each engine drives two 500 KW generators that supply power to mud pumps, rotary table and draw works.

RIG: Blue Water No. 1

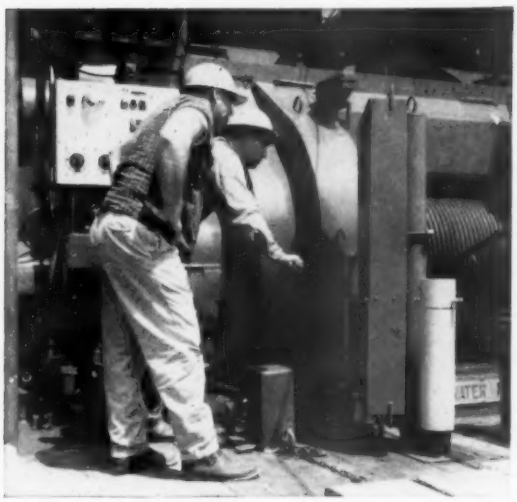
POWER: Electro-Motive

"Dependability" biggest factor in power choice

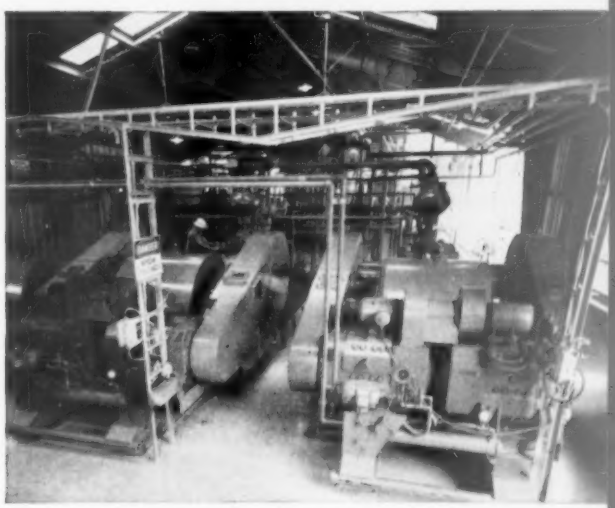
Blue Water Drilling Corporation put Electro-Motive Power in their Rig No. 1 because they knew this equipment had what they wanted: a proven record of performance under all kinds of drilling conditions; smooth, accurate, flexible power control; and only *one* manufacturing responsibility for the complete power system.

Summed up, these reasons mean just one thing—*dependability*. The stakes in offshore or deep land drilling are extremely high. Just as high are the demands on equipment. That's why a drilling company like Blue Water places the power responsibilities of their multi-million dollar rig No. 1 with Electro-Motive Power. In fact, more offshore rigs are powered with Electro-Motive Power than by any other Diesel-electric system.

If you are considering power equipment for deep land or offshore drilling, contact your Electro-Motive representative.



Control center is located beside draw works. Here, Carl Wilson, (left) Toolpusher and L. L. McMillian, Driller, watch weight indicator. Behind them is the Electro-Motive control panel which provides control of all Diesel-electric equipment.



Mud pumps are powered by 625 horsepower Electro-Motive motors. Three pumps are used. Two shown here each have two motors. Third pump has one motor. Draw works is powered by two similar drive motors.

ELECTRO-MOTIVE DIVISION · GENERAL MOTORS

LA GRANGE, ILLINOIS · *In Canada:* **General Motors Diesel Limited,** London, Ontario

Petroleum Industry Sales Offices: Houston, Texas; Los Angeles, California

Hydraulic Rig Nearing Production

A recently-developed all-hydraulic rig—under close observation for the past few months—is approaching the production stage.

Houston Oil Field Material Co. is planning to manufacture the "different" rig, which operates without a rotary table, blocks, tongs, or hoisting line (PW—May30'58,p18). A main feature of the rig is a power swivel, which permits extremely flexible operation.

Homco now is in the process of running a patents check on the equipment. This check should be completed within the next couple of months. Then the company plans to develop the rig further and put it into production.

It is expected that the rig will be built in a range of sizes, to handle deeper work than the shallow holes drilled by the original model.

As designed and engineered by John C. Bunn, president of Hydro Drilling Co., the existing version of the equipment is limited to holes no deeper than 2,500 ft.

But drilling capability can be increased by increasing the piston size in the hoisting unit, and beefing up various components of the rig.

Bunn believes, for example, that the rig could have a 10,000-ft. drilling capacity with 5½-in. OD piston rods, using 2⅞-in. tubing for drill pipe. The existing version has 3½-in. OD piston rods and uses 2-in. tubing.

And he points out that, theoretically, the same type of hoisting unit, with 10-in. OD piston rods, could handle up to 1-million lb. of drill pipe (10,000 ft. of 2⅞-in tubing weighs less than 100,000 lb.).

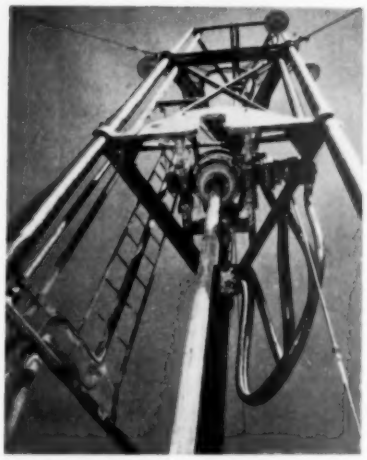
Homco points out that there are certain obvious outside limits to the size of the rig, centering primarily on the ultimate feasible size of the hoisting unit.

But the company expects to design a really large model for deeper drilling, as well as small and intermediate versions.

To make the hydraulic rig capable of deeper drilling, some changes will probably be made in the design and engineering of the original model.

For one thing, there almost certainly will be a change to permit the pulling of several joints of pipe in a single stand. In the original model, it was relatively simple to pull pipe, but only one section could be pulled at a time —a big disadvantage in all but shallow work.

One possible method of accomplishing this, it is thought, would be to provide hydraulically-operated auxiliary equipment at the top of the hoisting unit.



POWER SWIVEL mounted in tripod mast is key to drilling with hydraulic rig.

"There are some problems to work out," says a Homco representative. "We haven't gone far enough to foresee all of them. But we don't think any of them will be insurmountable."

There's a possibility that one of the first applications of the unit will be in offshore workover and well completion work.

Workover and completion work has long been one of the offshore operators' major problems. Because of the logistics involved, there is a definite need for highly-mobile, easily-operated workover and completion rigs. The original rig was extremely mobile, with the main drilling section trailer-mounted, and other sections skid-mounted.

At least one major company is interested in the offshore possibilities of the all-hydraulic rig. Nothing in the way of arrangements or use has yet been decided, but, says the company:

"We are interested in the rig and its possible use for workover and completion work. But things haven't gone far enough to say just what will come of it or its possible use for drilling offshore."

Though drilling has slackened offshore, the workover problem continues to grow larger as wells age and require remedial steps.

Units Cut Gas Processing Time

Shell Oil Co. is successfully using silica-gel adsorption-type hydrocarbon recovery units to speed up lean gas processing in the field.

Two of the units are now in operation in the New Orleans area.

One unit was installed in the Black Bayou field, Cameron Parish, in July, 1957, to dehydrate the gas stream. This unit is now recovering about 4 b/d of condensate from about 3.5-million cu. ft. per day of gas production. In addition, it is providing dry lift gas to prevent line "freeze," or clogging.

Another unit, installed in the Chalkley field, Cameron Parish, in May, 1958, is recovering some 40 b/d of condensate from a gas stream of about 8.4-million cu. ft. per day.

The units, similar in operation to automatic dry dessicant gas dehydrators, cut regeneration time to a minimum.

Drying and regeneration time is cut to about 45 minutes. Larger regeneration gas heating and cooling equipment makes this possible.

Also, a greater portion of the bed is used for adsorption of liquid hydrocarbons, instead of water.

The new units use silica-gel, which is said to have a higher adsorbing capacity for hydrocarbons than sova beads or activated alumina.

To keep regeneration time low, Shell is using temperature-actuated control devices, instead of mechanically actuated devices.

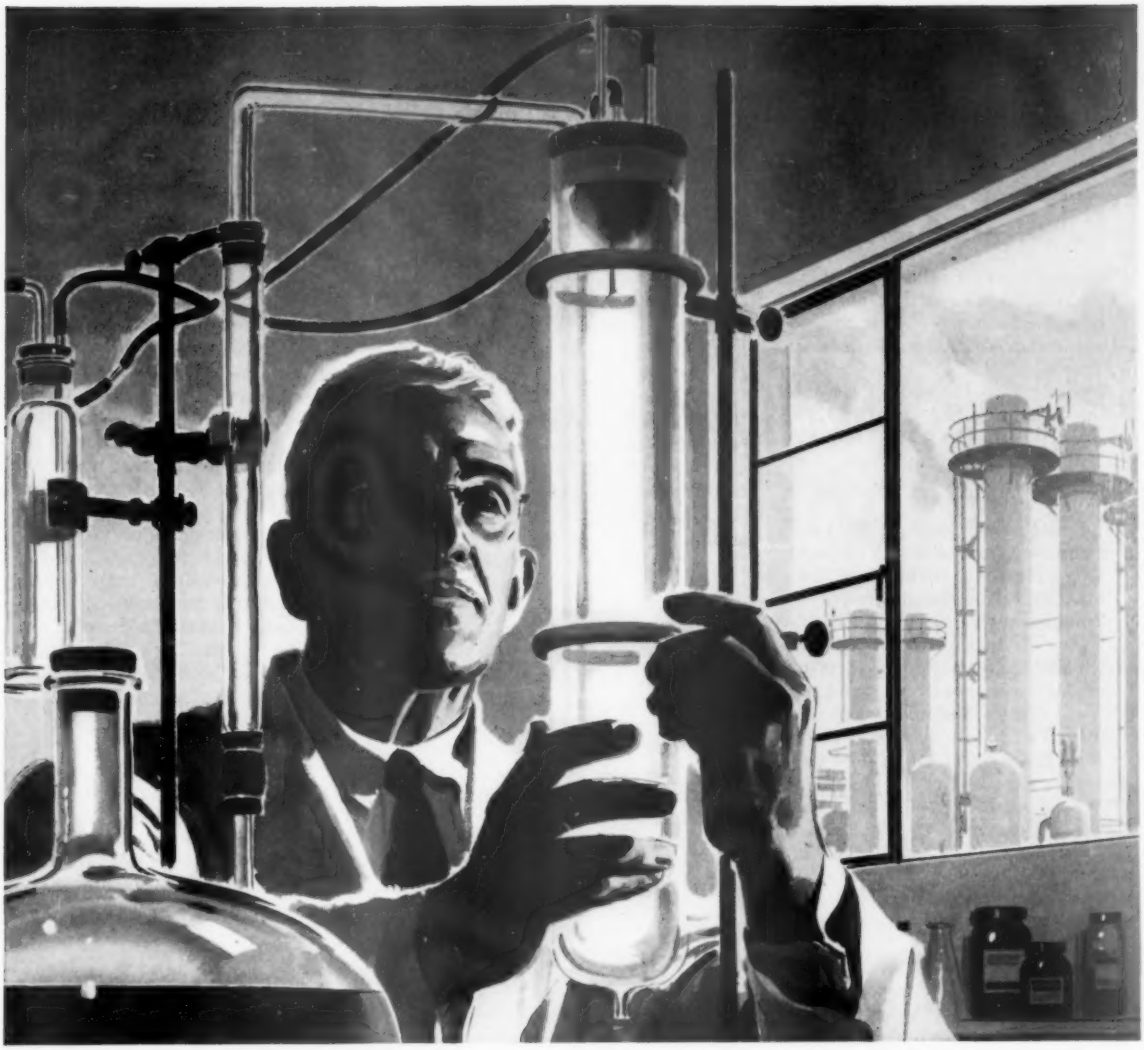
Temperature-actuated controls insure the switching of each bed immediately after it is completely regenerated, rather than awaiting a predetermined time-interval lapse. Regeneration depends on each tower reaching a certain minimum temperature.

Performance of the units to date has been highly satisfactory, says Shell.

During a recent 17-day operating period, the Black Bayou unit processed an average of 3.5-million cu.ft. of gas per day, recovering 3.8 b/d of condensate. Operating pressure was 750 psi., with inlet gas temperature of 70F to 100F.

Regeneration gas temperature ran about 580F, with a peak bed temperature of about 460F.

The regeneration time cycle averaged 40 minutes. Water vapor content of the treated gas was about 1.3 lb. per million cu. ft. of gas.



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What's New / IN EXPLORATION, DRILLING, PRODUCTION

Cycling Project Set For Alberta Field

Stearns-Roger Engineering Co., Ltd., has been awarded a contract for a multimillion-dollar pilot cycling project in the Windfall sour gas field, in Alberta.

Participants in the project are Canadian Fina Oil, Ltd., operator, Hudson's Bay Oil & Gas Co., Ltd., and Pan American Petroleum Corp. The project is estimated to cost roughly $3-million.

The pilot project has been designed to test the response of the Woodbend Reef condensate reservoir to cycling, to test materials under steady operating conditions that are "considerably more severe than usually encountered," and to test various process requirements and operating problems.

Two wells in the pilot area will produce about 15-million cu. ft. of gas per day. About 2,450 b/d of condensate is expected to be yielded at the central plant.

The operators told the Alberta Oil & Gas Conservation Commission that practical testing and experience on a pilot scale are imperative before embarking on field-wide operating installations.

If cycling is extended to the whole field, an additional investment of $30-million to $40-million would be necessary. In addition, more wells would be drilled. There are now 11 wells in the Windfall field.

The pilot program is planned to run for five years. Work on the cycling facilities will start late this fall.

•

Leasing News

A sale of leases of Montana state lands set for Aug. 28 has drawn "more interest than any time before this year," according to land commissioner Lou E. Bretzke.

Considerable interest has been shown in Daniels County, in the northeastern part of the state. Says Bretzke: "This is rather a surprise. We thought they'd pretty well crossed that area off after a few dry holes."

The Bureau of Land Management has scheduled a sale of leases on Wyoming lands Sept. 17.

The lands, in Big Horn, Park, and Weston Counties, cover 3,197 acres within known geologic structures of several fields.

One of the largest sales of Oklahoma school land leases in several years will be held Sept. 8.

A total of 102 tracts will be offered in the southern, western, and northern parts of the state.

Two lease sales are scheduled for North Dakota in September.

The Bank of North Dakota will hold a sale Sept. 16. The following day, the State Land Dept. will hold a sale.

•

The deepest test ever drilled in Alaska has been abandoned.

Standard Oil Co. of California has abandoned No. 1 Deep Creek Unit, near Ninilchik, on the Kenai Peninsula, at a depth of 14,221 ft. The test cost nearly $1-million.

Standard will continue its exploratory activities in various parts of the peninsula, according to M. W. Wolf, division superintendent for exploration. Another test is slated for the Swanson River unit.

•

Another California producer has quietly restored cut-back production, indicating some improvement in the state's supply picture.

Tidewater Oil Co. last week began opening up some 600 wells that were shut last winter in the Kern River field, Kern County. The move is expected to restore about 4,500 b/d of heavy crude production.

Recently, Monterey Oil Co. returned to production some 350 b/d of output that had been cut back in the Edison field, Kern County.

Standard Oil Co. of California reportedly has opened an estimated 5,500 b/d of production in the San Joaquin valley.

•

The Colorado Governor's Advisory Committee on Natural Resources is urging a constitutional amendment to establish the validity of the state's oil and gas production tax, and to set 5% as a maximum levy.

The California Co., in a brief filed with the Colorado Supreme Court, has challenged the legality of the present tax, claiming that it violates both federal and state constitutions.

The present law imposes a 5% tax on gross income over $300,000 from oil and gas production and lesser levies on incomes under that, ranging down to a minimum of 2% on the first $25,000.

•

Pan American Petroleum Corp. will start construction this fall on a natural gas processing plant in the Beaver Creek field, Fremont, Wyo.

The plant will process gas from six producing formations in the field, at an initial capacity of 49-million cu. ft. per day, 2.7-million cu. ft. of which will be casinghead gas from three oil formations.

•

The California Co. is planning to drill off Florida, depending on the outcome of the dispute between the coastal states and the federal government as to who owns offshore lands.

The company has a committment

New Drilling Barge

This new submersible drilling barge, built by Levingston Shipbuilding Co. for Producers Drilling Co., Inc., is designed to drill to a depth of 18,000 ft. in swamp locations, in a maximum water depth of 12 ft.

The "Leonard Glade" is 185 ft. long, 50 ft. wide, and 14 ft. deep.

All machinery and equipment was furnished by Mid-Continent Supply Co.

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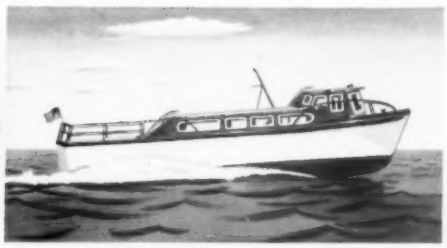
NEW HIGGINS BOAT



Two V-drive Solar Jupiter® turbines produce 1000 hp in this aluminum-hulled 52 ft work boat. Dry weight is 31,000 lbs. It will carry 25 passengers and crew at speeds better than 40 mph.

NEW SEWART BOAT

Sewart's new 55 ft work boat is powered by two conventional-drive 500 hp Jupiter engines. Steel hull is designed for open sea operation at speeds up to 35 mph. Dry weight: 41,000 lbs. Capacity: 50 plus crew.

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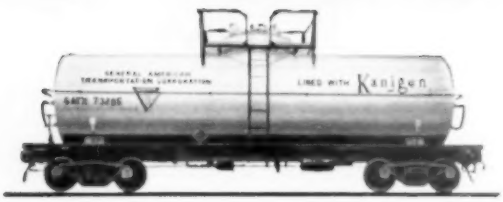
THE TANK CAR NEWS OF 1958



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with Coastal Petroleum Co. to drill on that company's offshore leases. But if the offshore suit isn't decided by July 1, 1959, or if the suit is decided adversely to Florida, the company's drilling committment may be abandoned or drastically curtailed.

•

Revenue received by the Alberta government from oil and gas operations in the first half of 1958 has fallen short of the amount received during the first half of 1957.

Total revenue for the first half of 1958 from sale of crown reserves, and from rentals and royalties, totaled $54.8-million, compared with $70.5-million for the first half of 1957.

•

The Atomic Energy Commission, at Nevada's atomic test grounds, is getting to be one of the California drilling contractor's best friends.

AEC is currently completing a series of six holes near Mercury, Nev., and has awarded a contract to another contractor for a five-well program in the Mesa area, 22 mi. to the north.

Hagestad Drilling Co., Bakersfield, Calif., will drill the five holes for AEC, going to depths of 650 ft. to 1,250 ft. Rumors have it that the holes will be used for instruments.

•

The North LaBarge deep unit in Wyoming's Sublette County has been approved by the U.S. Geological Survey.

The block includes 3,639 acres. Belfer Natural Gas Co. is operator of the unit.

•

The merger of Crescent Petroleum Co. and Norbute Corp. has been approved by stockholders of both companies.

Terms provide that 20 shares of Crescent preferred stock and 5 shares of Crescent common will be exchanged for each 100 shares of Norbute common.

Norbute, among other activities, is engaged in mineral exploration and development in the U.S., Canada, and Mexico.

•

Drilling activity in Illinois increased slightly during July.

A total of 211 tests were completed during the month, an average of 53 per week. This compares with an average of 50 per week in June, and 38 per week for the entire first half of 1958. Of the 211 tests completed, 104 were oil wells and 8 were gas wells, for a success ratio of 53%.

•

Formation of Stekoll Canadian Oil & Gas Co. for the purpose of investing about $4-million in Canadian drilling operations has been announced by M. H. Stekoll, president, Stekoll Drilling Co.

The present plans of the company involve the drilling of 180 tests on either proven or semiproven locations.

•

The "dry hole" history of Mississippi is the subject of a new U.S. Geological Survey report.

The report, "Records of Unsuccessful Test Wells Drilled for Oil and Gas in Mississippi as of July 1, 1956," is available as Bulletin 1072-A from the Supt. of Documents, Washington 25, D.C. Price: 30¢.

•

Kansas now has its second triple completion, and its first to produce gas from three zones.

The triple completion is Shell Oil Co. No. 1 Light, section 17-35s-32w, Seward County, which has a total flow of 19.2-million cu. ft. of gas and 257 bbl. of condensate daily. Production is from the Lansing-Kansas City, Morrow, and Chester formations. The three zones produce through separate 1½-in. tubing strings.

•

Engineering

A single-string, solid block Christmas tree has been introduced by Cameron Iron Works, Inc., for use in Lake Maracaibo.

The unit incorporates a gin pole socket that can be used for maintenance purposes on installation. The design also makes it possible for the flow line to parallel the casing down to a depth in the lake that will give ample ship clearance. The tree has a working pressure of 3,000 psi.

•

Drilling Highlights

Kansas—Shear, Jackson, and Parker No. 1 Ruda, section 14-4s-33w, Rawlins County, recovered 120 ft. of gassy, muddy oil, 60 ft. of gassy oil, and 90 ft. of oil- and gas-cut mud on 90-minute drillstem test of the Lansing-Kansas City at 3,936-61 ft. The wildcat is 27 mi. north of Phillips Petroleum Co.'s No. 1 Llanos, rank wildcat in Sherman County.

In Sherman County, Phillips has added a third pay zone at No. 1-A Hartley, section 3-6s-37w, confirmation test to No. 1 Llanos. A 14-hour swab test of the Marmaton at 4,585-670 ft. recovered 297 bbl. of 39.6-gravity oil.

Nebraska—Baumgartner Oil Co. recovered oil on two drillstem tests of the J sand at No. 2 Juelfs, section 15-17n-52w, Morrill County. A 20-minute test at 5,158-79 ft. recovered 25 ft. of free oil and 300 ft. of 50% mud-cut oil. A 20-minute test at 5,162-70 ft. recovered 120 ft. of oil, 120 ft. of 70% mud-cut oil, and some gas. The test is 1¼ mi. west of Juelfs field, separated from it by a dry hole.

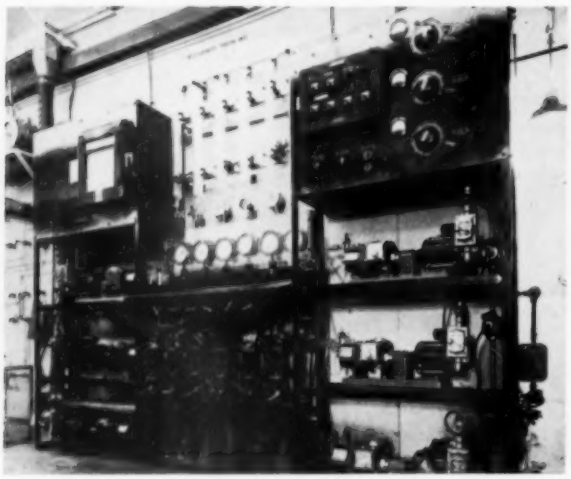
Alberta—Pan American Petroleum Corp. No. 1-A Woking, section 25-75-5w6, in the Saddle Hills area, was completed for 36-million cu. ft. of gas per day through perforations in the Blue Sky (Cretaceous) at 4,611-21 ft. Nearest production is 10 mi. west, at Saddle Hills field.

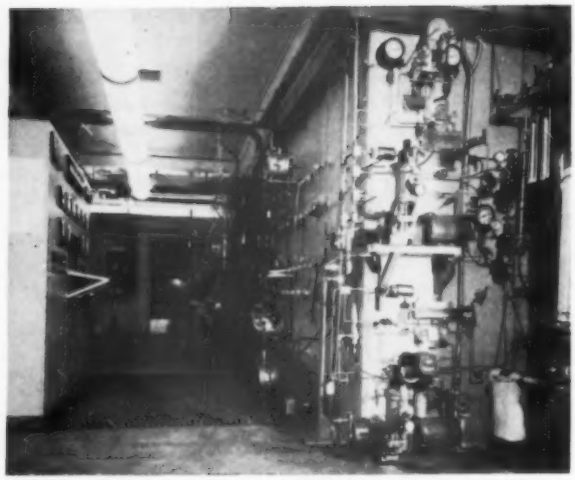
North Dakota—Pioneer Oil Co. No. 1 Ormiston, section 25-162n-90w, Burke County, recovered 296 b/d of oil on 24-hour pump test from perforations at 5,946-54 ft. in the Mississippian. The test is 6 mi. southeast of production.

Mississippi—Pan American Petroleum Corp. No. 4-A U.S.A.-Jack Ewing, section 14-5n-1e, Franklin County, was completed for 124 b/d of 39.7-gravity oil through 11/64-in. choke and perforations in the Baker sand at 6,406-23 ft. The pool opener is 1½ mi. southeast of Locust Hill field.

Oklahoma—International Oil Co. No. 1 Crane, section 19-2n-9e, Coal County, was completed for 4,160,000 cu. ft. of gas per day from perforations in the Booch (Pennsylvanian) at 1,610-20 ft. The well blew out at 1,610 ft., and, after drilling was resumed, the hole was bottomed at 1,654 ft. Original contract depth was 4,400 ft. The well is 2½ mi. northwest of Centrahoma pool.

New Mexico—Pan American Petroleum Corp. No. 1 Old Trading Post, section 10-26n-14w, San Juan County, was completed pumping 103 b/d of 39-gravity oil from perforations in the Gallup at 5,018-95 ft. It is 2 mi. from the nearest Gallup production.





SPEEDIER CATALYST TESTING results from Cal Research's dual-pilot-plant procedure. The catalyst screening unit (left) culls out unlikely catalysts, leaving the best ones for long-time on-stream tests in the automatic pilot plant (right).

How to Cut Testing Costs in Half

California Research Corp. has cut the cost of testing potential new catalysts and testing catalyst life by more than 50% by using a pair of specially designed pilot plants.

One of the pilot plants at the laboratories of Standard Oil Co. of California's research arm, at Richmond, Calif., is a multireactor catalyst screening unit to test the new catalysts, backed up by computer analysis of the data. This unit permits rapid preliminary evaluation of catalyst performance.

The other pilot plant, built for automatic operation, makes thorough evaluations under commercial operating conditions of the catalysts that pass the screening test.

The screening unit speeds catalyst research by culling out inferior catalysts, leaving only the most promising candidates for extended on-stream testing in the subsequent automatic pilot plant runs.

In practice, the screening unit breaks ground for the automatic pilot plant. It boils down the number of catalysts to be tested in long runs by a factor of at least 100.

The screening unit permits a thorough study of catalyst preparation techniques, reproducibility of preparations, stability in various environments, activation, and so forth. It also permits a gross study of the effects of process variables as related to a variety of refining processes, such as hydrogenation, hydrofining, isomerization, and catalytic reforming. This means that a catalyst may be tested very thoroughly before being moved to the automatic pilot plant for long, commercial-type test runs.

Raw data from the screening unit is analyzed on a computer. The operator fills out a run sheet, which is sent to Cal Research's mathematical services group, where the operating and analytical data are punched on cards.

The cards are fed into the computer, where a standard mathematical analysis is made. Final results from the computer give the catalyst activity index, the catalyst activity decline index, and the statistical reliability of the data.

Use of the computer in this manner saves between three and four technical manhours per day.

Performance of the screening unit has been very satisfactory, according to Cal Research.

In its first year of operation, it made more than 1,200 tests of potential catalysts.

Statistical analysis of the data show results of tests in the unit to be highly reliable.

The automatic pilot plant is used for a wide variety of process studies, both research and commercial.

This unit, which has been operating successfully since the first of the year, is thought by Cal Research to be the only unit of its type now in use that combines monitored operation with a reasonably complete duplication of the commercial process being piloted.

The unit can duplicate hydrofining, hydrogenation, catalytic reforming, isomerization, and similar operations. It can be applied not only to the study of process variables (long catalytic life tests, feed stocks, and processing severities and conditions), but also to studies of reaction kinetics, instruments, and materials of construction.

The pilot-plant reactor is of a three-function design. Feed preheat, catalyst bed, and after-heater are combined in one unit.

All three functions are combined in a 3-ft. length of stainless steel pipe. The top section (for preheat) is 1 ft. long. It has an internal diameter of 1 in., and is made of Type 347 stainless steel. It is electrically heated.

The reactor catalyst bed has a capacity of 75 to 150 cc. Reactor temperature is controlled by fast-response, pencil-type thermocouples, which feed signals to a pneumatically controlled system.

Operating conditions for the reactor are 100 to 3,000 psi. gauge pressure, 100F to 1,100F, and feed rate of 50 to 250 cc. an hour.

A novel combination of radiant heaters and cooling air holds reactor temperatures within very close limits.

A stream of cooling air is circulated between the radiant heaters (each 4 in. in diameter, placed every 6 in. along the 3-ft. length of the reactor tube), and the reactor tube itself.

This arrangement makes it possible to balance heat input from the heaters quickly. Control of reactor tem-

perature, Cal Research says, is within one degree.

Cal Research also designed other equipment for the pilot plant.

The oil feed pump, a diaphragm unit made of Type 316 stainless steel, was designed by the company. The other pump in the system, for gas recycle, is also of Type 316 stainless steel. It has a gas capacity of about 3 liters per hour.

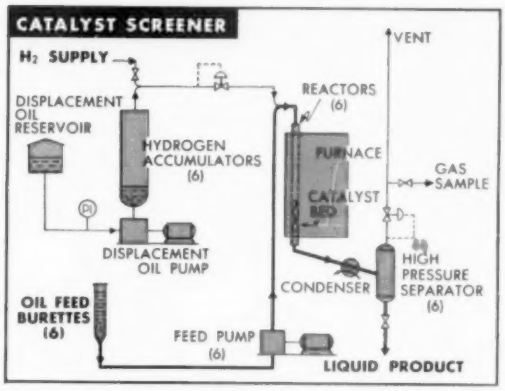
Pump flow-rates are controlled by capillary-flow elements designed by Cal Research. These elements are placed in the process lines to sense flow, and send appropriate signals to the controllers. Here again, Type 316 stainless steel is used.

Makeup hydrogen is added through a flow recorder. A downstream regulator maintains the desired system pressure.

Sulfur content in the liquid product from the plant is measured by an analyzer, which uses absorption of X-rays from radioactive iron. Other means of analysis, such as gas-liquid partition chromatography, are also used according to process needs.

The automatic pilot plant is more reliable than manually operated units, according to Cal Research.

In catalyst life-test work, the unit requires only two to four hours of



How Catalyst Is Screened

The catalyst screening unit contains six independent reaction systems. This includes hydrogen accumulators, oil feed burettes, feed pumps, reactors, condensers, and high-pressure separators. However, the six reactors are contained in a common furnace, so the temperature is the same for all reactors.

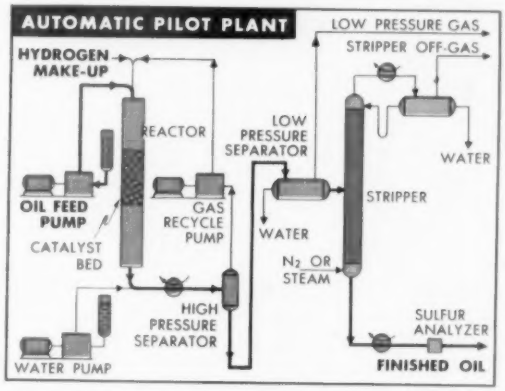
Oil feed and hydrogen are mixed and preheated before passing through the reactor catalyst bed. The mixed reactor feed flows downward through the reactor. The top portion of the reactor preheats the mixed feed prior to contacting the oil-hydrogen mixture with the catalyst bed in the lower part of the reactor chamber.

Products from the reactor are partially condensed and sent to the high-pressure separator to separate uncondensed gases from liquid product.

Liquid product is withdrawn periodically from the separator. Uncondensed gases pass through a back-pressure regulator to vent or gas sample. The back-pressure regulator holds the reaction system pressure at the desired operating level between 100 and 3,000 psi. gauge pressure.

Control of flow rates and pressure is achieved by back-pressure regulation and pumping rates.

A back-pressure regulator controls the pressure of the hydrogen from the accumulators. Combined with the back-pressure regulator on the gas vent from the separator, these regulators control the system pressure and hydrogen flow rate. Oil feed flow rate is controlled by adjusting the feed pump for each system.



How the Pilot Plant Works

The automatic pilot plant is a continuous-flow, high-pressure reactor system, which can simulate actual commercial operations. It is instrumented for unmanned operation and safety shutdown.

In using the plant for hydrofining, for example, oil feed, recycle gas, and makeup hydrogen are mixed before entering the reaction chamber. Electric heaters in the top of the reactor preheat reactants to 600F to 750F. In the preheater, reactants flow downward through a spiral square-grooved path before reaching the catalyst bed.

Products from the reactor are water-washed before being separated into liquid and gas streams in two separators. The water wash is to remove ammonium sulfide, which would otherwise accumulate and plug the recycle gas system. The mixture is then cooled and sent to the high-pressure (500-psi.) separator.

Uncondensed gas from this separator (containing 40% to 95% hydrogen) is recycled to the reactor. Liquid product and water are depressured continuously into the low-pressure separator. This separator operates at atmospheric pressure and discharges low-pressure gas, waste water, and raw product oil.

Raw product oil from the final separator has hydrogen sulfide and light hydrocarbons removed in a stripping column, then is sent to final storage.

Nitrogen or steam is used in the column to strip undesired components out of the oil. Stripped product is cooled and analyzed for sulfur on its way to storage.

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operating attention a day. In addition, the company is convinced that there are other advantages over manually operated plants. Among them: operation is better; results are obtained more quickly; data are more reliable.

The high capital investment required is the main deterrent to such automatic pilot plants in other phases of Cal Research's work.

A simple unit of the type described here can be expected to cost three or four times more than an equivalent manually operated unit. Instrumentation accounts for 60% of the cost, compared to about 15% to 20% for nonautomatic plants.

However, Cal Research spokesmen say that if the advantages of speed and reliability justify the extra cost in any given situation, another automatic pilot unit will be built.

The company is currently making cost and engineering studies toward automating other plants, and will go ahead if the results are favorable.

The catalyst screening unit is one plant which probably will be automated.

What's New / IN PROCESSING

Bishop Oil & Refining Co. has abandoned plans to build a refinery northwest of Phoenix, Ariz.

From the beginning, the company has been faced by violent opposition from the Maricopa County zoning board commissioners, the Phoenix Chamber of Commerce, and resort owners in a 50-mi. radius (PW—Mar. 7'58,p64; May23'58,p37).

The company held options on 480 acres and planned to tap the Southern Pacific pipeline for crude to feed the proposed $19-million refinery.

•

A new Houdriforming catalyst has been introduced by Houdry Process Corp.

Called Type 3-G, the new catalyst is said to produce higher octane reformate at a cost as low as or lower than that of other catalysts. The catalyst can be used in existing reformers and is described as "fully regenerable."

•

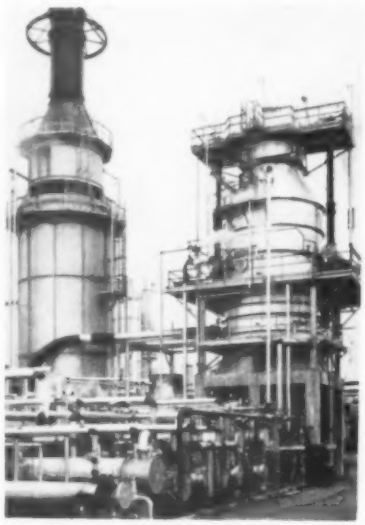
Commercial Solvents Corp. will begin production of caprolactam, an ingredient of nylon 6, about Dec. 1 at its Peoria (Ill.) plant.

Nylon 6 is used to make molding resins, textile products, tire cords, and extrusion products. The company will use its own production process in manufacturing its new product.

•

Arkansas Louisiana Chemical Corp., wholly owned subsidiary of Arkansas Louisiana Gas Co., will take over operation of the chemical facilities of the Pine Bluff (Ark.) arsenal from the Army Nov. 1. Products from the plant are chlorine and caustic soda.

This is another step in the company's diversification program. First step came earlier this year with the formation of the chemical subsidiary and plans to build a gas liquids extraction plant at Magnolia, Ark. (PW—Feb7'58,p52; Apr.25'58,p63).



Vac Unit for Ashland

Ashland Oil & Refining Co.'s new vacuum distillation unit, at its Canton (Ohio) refinery, processes 15,000 b/d of crude unit bottoms. Products from the tower are feed stock for catalytic cracking and large quantities of asphalt—the latter in anticipation of the federal highway program. The unit was designed and built by the Chemical Plants Division of Blaw-Knox Co.

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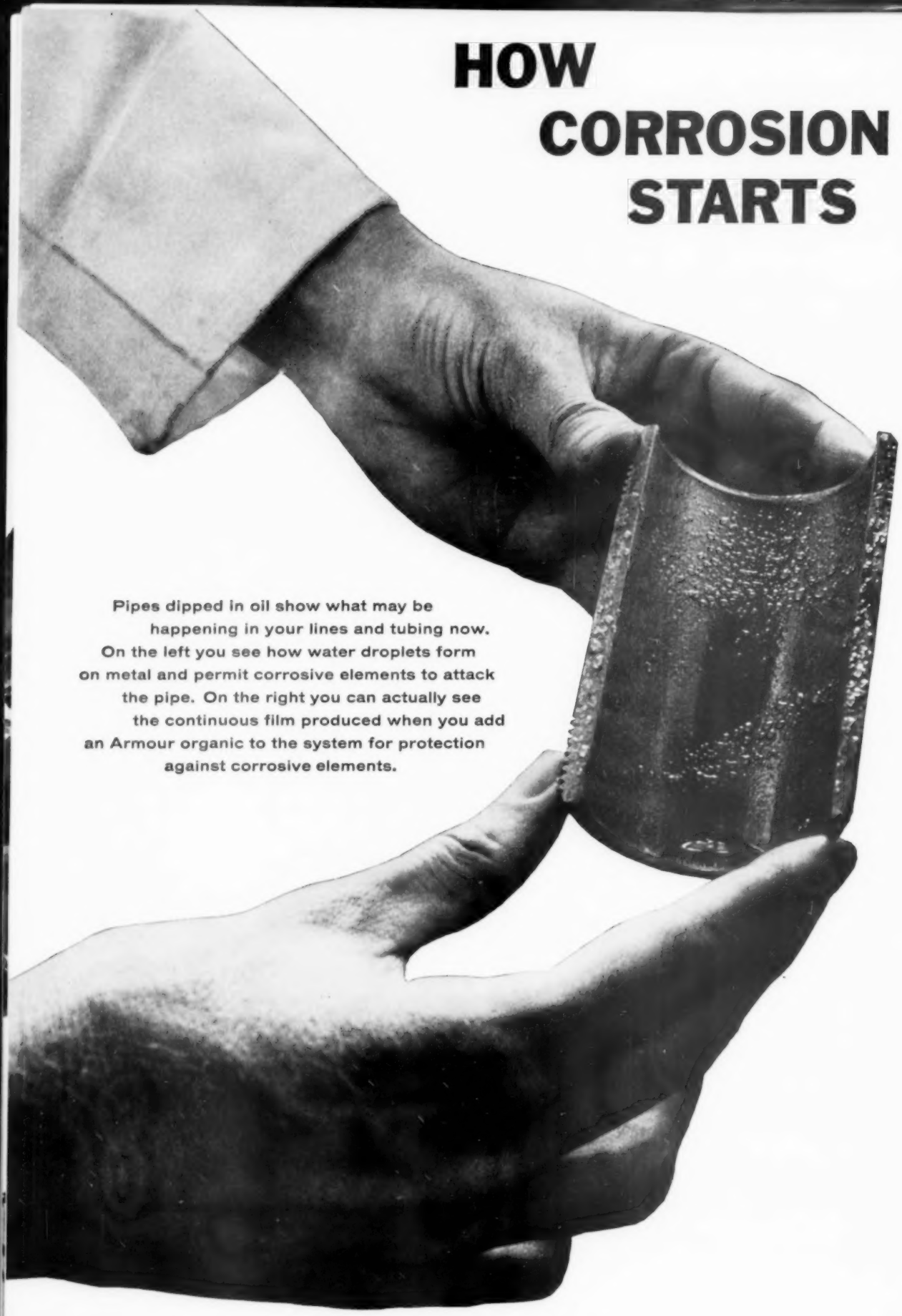
HOW CORROSION STARTS



Pipes dipped in oil show what may be happening in your lines and tubing now. On the left you see how water droplets form on metal and permit corrosive elements to attack the pipe. On the right you can actually see the continuous film produced when you add an Armour organic to the system for protection against corrosive elements.

HOW ARMOUR ORGANICS STOP IT

Duomeens® and Arquads® form continuous films. They lock out water and corrosive elements—give up to 99.5% protection.

In primary and secondary oil recovery operations, Armour organic chemicals offer unmatched protection against corrosion. As little as 10 ppm protects pipes and equipment—above and below ground.

Duomeens and Arquads protect against the corrosive effects of brine, hydrogen-sulfide and other corrosive elements. Because they adsorb continuously on metallic surfaces, Armour organic chemicals are lengthening the life of pipes and equipment, and cutting replacement costs in many oil fields.

• • •

There are variations of these basic Armour inhibitors. Each has characteristics useful in specific applications. They are effective at about 10 ppm in water-flooding, or at about 50 ppm when used as down-the-hole inhibitors, (basis: 100% activity).

Duomeen CD-50: Effective corrosion inhibitor in all water systems. Completely dispersible in water. **Duomeen CDA-50:** Used in systems where carbon dioxide and oxygen corrosion are a problem. Water soluble. **Arquad T-2C:** Particularly effective in fresh water systems. Ranges from water soluble to dispersible. **Armac CD-50:** Especially effective in fresh water systems and low sulphate brines. **Duomeen TDO-50 (Liquid):** An easy to use, oil soluble, water dispersible, down-the-hole corrosion inhibitor. Utilized to inhibit corrosion in salt water disposal systems. **Duomeen TDO (Fluid paste):** 100% active, oil soluble corrosion inhibitor, also used in salt water disposal systems.

Duomeen TDO under varied test conditions

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ASTM Turbine Oil Test	Heavy corrosion	No corrosion	1.7
Revolving Wheel Test H_2S saturated brine-kerosene	39.6 mpy*	3.8 mpy	2.1
Salt Water Disposal System Test Coupons installed at well heads	15 mpy	.5 mpy	0.2

*Mils penetration per year **Basis, 100% Activity

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The T-2 Tanker Has Its Troubles

Once kingpin of the U.S. tanker fleet, the T-2 has fallen on evil days. Chief troubles: Low tanker rates, the high cost of repairs, and competition from larger tankers.

An old friend of petroleum transportation, the T-2 tanker, is sick, and there's not much oil men can do to make it well again.

The T-2, with its 16,765 deadweight tons, was the answer to the nation's prayers back in the early days of World War II, when it provided the cargo capacity needed to keep crude and products on the move over Atlantic and Pacific.

Now, 15 years after plugging a vital gap in national defense, this class of tanker is suffering from depressed tanker rates, new competition, rising costs of reconditioning, and just plain old age.

Walter L. Green, chairman of the board of the American Bureau of Shipping, recently summed up the T-2's problems:

"In some quarters, it is predicted that . . . many of the privately-owned T-2 type tankers now in layup will never be activated again."

Current tanker rates are perhaps the T-2's most serious ailment.

"If the tanker trade should be depressed at the current rate for another year or two," Green submits, "it could very well spell the end of the period of usefulness from an economic standpoint of many war-built types of ships. Some of these vessels are nearing 14 and 15 years of age and will require considerable work to meet classification requirements."

But competition from the newer, much larger tankers is also making life miserable for the T-2.

The large-capacity shipments of crude now go to the 30,000-tonners now common in the tanker fleet; the 45,000-tonners, which are increasing in number; and the few giants which range up to 85,000 tons. It just doesn't pay to use several T-2's where one of the larger ships can handle the job.

Another T-2 problem is that repairs today cost much more than they did in the past.

The work needed to get many T-2s back to classification requirements "could mean a very substantial outlay" according to Green—an outlay which can't be justified by the earning power of many T-2s.

Even scrapping doesn't seem to be an answer for the T-2s.

Explains Green: "As to many idle T-2 tankers, scrapping these vessels now or in the future would hardly seem advisable. With Liberty cargo ships being sold to ship wreckers by the Maritime Administration for about $75,000, the financial return on a T-2 tanker would not be attractive enough."

However, the T-2's record of bouncing back from similar difficulties in the past offers some encouragement for its survival.

A good idea of the varying climate for the T-2 during the postwar period can be derived from the way its selling price has fluctuated during the period:

In late 1946, the tankers were selling for about $1.8-million each. By mid-1949, however, the price had fallen to about $700,000. But in late 1951 and early 1952, T-2's were as high as $3-million. After a low period in 1953 and 1954—when the price sagged almost to $300,000—the Suez crisis helped to bounce the T-2 value again, this time as high as $4-million.

Now T-2s can be had for $400,000 to $500,000.

But the bounce back has always come as a result of some international crisis or emergency. Another such crisis would be the quickest-acting medicine for the current plight of T-2 tankers.

Green admits that his whole analysis of the T-2's position depends on today's world situation—which

Lake Gets Big-Big-Inch Pipe

Pipelaying is a tough job any time, but when you're putting down 40-in. pipe about 70 ft. below the surface of a lake, you really have your work cut out for you. That's what's facing Brown & Root's special laying barge M-211 as it lays a big-big-inch 14-mi. gathering system for Creole Petroleum Corp. in Lake Maracaibo. The system will tie several offshore gas wells to Creole's No. 3 compressor plant.

Reinforced concrete on the big pipe will help prevent corrosion but it adds to the headache of laying the pipe. With this coating, each 40-ft. segment weighs about 20 tons.

could change drastically in a short time: "Of course," he says, "some emergency could upset my predictions."

Even without an emergency, the future of the T-2 is not wholly black.

Whether tanker operators like it or not, the T-2 is still the backbone of the American-flag tanker fleet (about half of all U.S.-flag tankers are in the T-2 class).

And there are several trades in which the T-2 still has considerable life expectancy. Coastal product service is certainly one. And crude delivery to the many major coastal refining areas that still cannot handle the larger vessels is another.

Jumboizing—replacing cargo tanks with new longer, wider, and deeper tanks—has kept many T-2s in business, and can be used on others to do the same.

And for the T-2s that can't find work in carrying crude and products, there's always conversion to coal, ore, or grain carriers.

What's New

IN TRANSPORTATION

Jayhawk Pipe Line Co. may extend its cross-Kansas crude line to fields in Haskell and Morton Counties.

Engineering work has already been completed on two 6-in. extension lines from the line's present terminus in Meade County to the Interstate field in Morton County, and the Pleasant Prairie and Pleasant Prairie Northwest fields in Haskell County. Pipe Line Technologists, Inc., of Houston, handled the engineering work.

The planned extension would cost about $1.5-million.

The present line, from Meade County east to McPherson and Valley Center, is expected to be in operation early next month.

•

Arkansas Louisiana Gas Co. will extend its transmission system from Peria, Ark., to Helena, Ark., to deliver up to 75-million cu. ft. of gas daily to Arkansas Power & Light Co. beginning in early 1961.

Arkansas Louisiana has a 15-year contract to supply gas to the Helena utility. The contract calls for a starting price of 25¢ per thousand cu. ft., with periodic rate increases over the life of the contract.

•

The Federal Power Commission has

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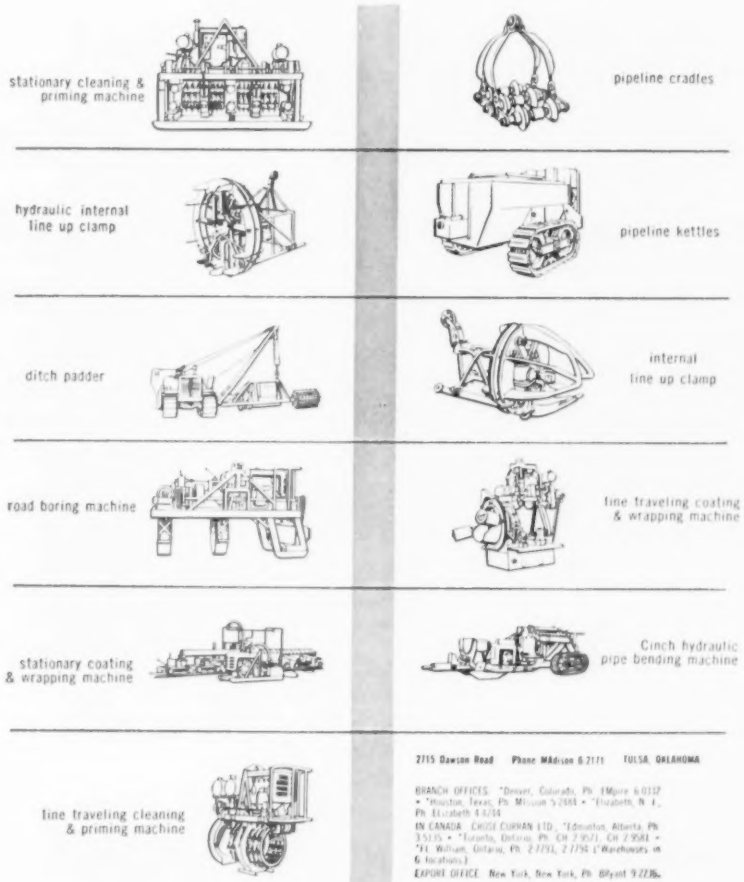
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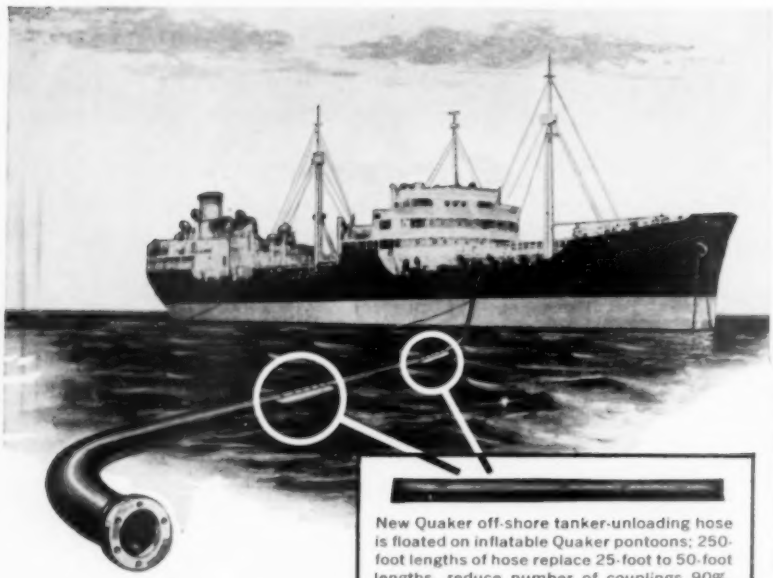

New Quaker off-shore tanker-unloading hose is floated on inflatable Quaker pontoons; 250-foot lengths of hose replace 25-foot to 50-foot lengths, reduce number of couplings 90%.

SMART WAY TO FLOAT SHIP-TO-SHORE HOSE:

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The old nuisance of floating ship-to-shore oil hose on empty drums is finally licked. And Quaker licked it.

Now, with Quaker's new floater assembly, you do away with bulky, abrasive 55-gallon-drum pontoons . . . you reduce the number of hose couplings as much as 90% . . . and you make the loading or unloading of a tanker off shore a relatively simple job.

This assembly consists of a reel that propels 250-foot lengths of Quaker hose to or from the ship, floated on revolutionary *inflatable* Quaker pontoons which, deflated, take up only a quarter of the space once needed to store inconvenient, rustable metal drums.

It's a beauty of a time- and money-saver! Find out more about the Quaker-Porter Floater Hose Installation. Ask your Quaker industrial distributor for full information, or write *Quaker Rubber Division, H. K. Porter Company, Inc.; Philadelphia 24, Pa., or Pittsburg, California.*

19-foot Quaker pontoon hose folds up into less than ¼ the space taken up by drum.

H. K. PORTER COMPANY, INC.

QUAKER RUBBER DIVISION

just approved Southern Natural Gas Co.'s plans to construct 375 mi. of new transmission line in five southern states.

The right-of-way will traverse sections of Louisiana, Mississippi, Alabama, and Georgia.

The new line is part of Southern Natural's $105-million expansion program, which will increase its system capacity from about 1-billion cu. ft. of gas daily to 1.3-billion cf/d.

•

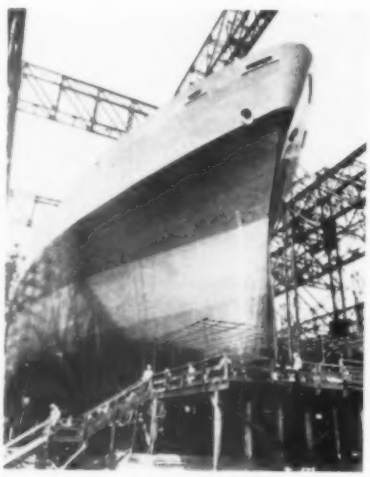
Service Pipe Line Co. is connecting nine additional Burke County (N.D.) oil leases to its Tioga gathering system. The new connections will bring to 490 the total number of leases from which the company gathers crude in North Dakota.

•

Engineering

Turbine-type gas flow meters to measure 30,000 cu. ft per minute at any desired pressure are now available from Pottermeter Co., of Union, N.J.

The company says its new line of meters can measure gas flow with an accuracy of plus or minus 0.5% of reading and a 10-to-1 flow range spectrum.



Sets New U.S. Record

The largest tanker ever built in the United States—the 60,000-ton "Sansinena"—got a few finishing touches just before its launching at the Newport News Shipbuilding & Dry Dock Co. yard, Newport News, Va., last week. The new tanker will operate in Persian Gulf-to-West Coast service for Union Oil Co. of California. It has a carrying capacity of 490,000 bbl.

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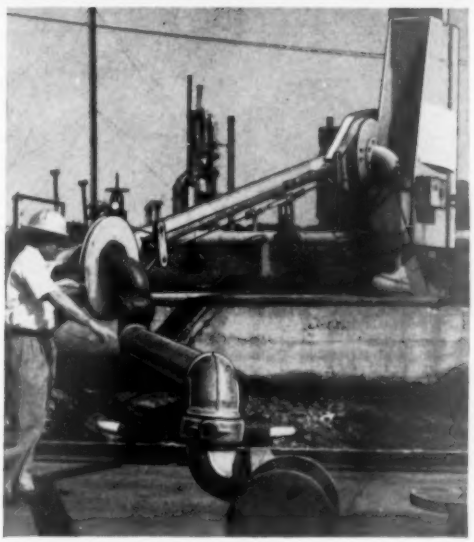
The Chiksan Barge Loading Arm ends hazardous manhandling of loading hoses, eliminates dangerous dock clutter. Mechanical operation makes hookup fast and simple.

Gear reduction enables one man to adjust the flange position anywhere in a 105° vertical range. Outboard arm is manually swung into position at any point in a 130° horizontal arc. The eight inch model rotates 360° to permit servicing barges on both sides of a narrow dock. Once hookup is made, the arm can be left unattended while free wheeling allows the unit to ride free during loading and unloading. When not in use, the arm is raised up and out of dockside traffic.

6″ x 25′ and 8″ x 28′ sizes available. Handle petroleum products, both black and bright, and mild caustics in any temperature ranging between —60° F. to +225° F. Service all river and lake barges and lake tankers including those in 25,000 barrel class.



The Chiksan Barge Loading Arm is designed to reach approximately 20 feet from dock riser to barge flange. Total length of Arm is 25 feet.

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Argentina Aims for Oil Exports by 1964

BUENOS AIRES—With $1-billion worth of oil development and financing pacts in various stages of negotiation, Argentina this week is hopefully setting its sights on self-sufficiency in oil by 1961, and on oil exports by 1964.

With Argentine proved reserves amounting to about 3.1-billion bbl., says Arturo Frondizi, Argentina's president, Yacimientos Petroliferos Fiscales, the government oil monopoly, will triple its present output within three years, to more than 16-million cubic meters (about 275,280 b/d).

Argentine oil consumption is expected to reach about 283,390 b/d by that date. (Consumption now is 255,000 b/d.) Self-sufficiency, therefore, could be reached in 1961 through YPF efforts alone—if the president's hopes come true.

By counting on some of the offers already made, Argentina hopes it will be able to produce more than 178,000 b/d of exportable surplus by 1964.

This figure is based on several assumptions: (1) that domestic demand in that year does not exceed 340,000 b/d; (2) that YPF holds its production at its 1961 level; (3) that the production of the group headed by Atlas Corp. reaches the proposed 215,000 b/d level; and (4) that other newcomers—Pan American, Astra, and Petrofina—hold at their 1961 proposed production rates of 28,400 b/d. (This latter estimate seems somewhat low, since Pan American expects to be producing 30,000 b/d within two years.)

On the other hand, the estimate does not include the output of Loeb, Rhodes & Co., the Conorada group, Sea Drilling Co., and other firms that may come in (PW—Aug.1'58,p70).

Some estimates indicate that, with the combined output of all the firms presently interested, the Argentine exportable surplus by 1964 could reach 20-million cubic meters (about 344,000 b/d).

Oil men point out, however, that the above estimates are only theoretical at this stage. For one thing, many of them doubt that YPF will be able to raise the capital it needs to meet its production goal for 1961.

Indiana Standard, meanwhile, became the first foreign company actually to announce the signed details of its contract.

Its agreement covers development and operation of certain areas of YPF reserves in Southern Argentina. It covers three structures in the Comodoro Rivadavia area, in the provinces of Chubut and Santa Cruz: Anticlinal Grande (Sarmiento), Cerro Dragon, and Canadon Grande. These areas are partly wildcat and partly semi-proven.

Indiana Standard's subsidiary, Pan American International Oil Co., will

Here's How The Argentine Oil Deals Shape Up Now

Name of company	type of contract	investment (millions $)	production (cu meter)*	number of wells	area	payment terms	duration of contract
Pan American International Oil Co.	definite for exploring, drilling, producing, pipeline	60 (est.)	3,400 daily (estimated)	50 first year 100 sec. year	1,544 sq. mi. Patagonia Com. Riv.	$10 cu meter 60% dollar 40% peso	15 years 5 years option
Carl M. Loeb, Rhoades & Co., New York	definite for drilling & producing	100 (minimum)				50% of "laid-in value" of oil produced until costs returned; plus 15% to 20% for profit	20 years
Atlas Corp. Group	preliminary; finalized in 90 days; for drilling, producing, constructing, financing	700 (est.)	oil & gas: '59-550,000 '61-4.2 million '64-12.5 million	4,000	Comodoro Rivadavia		6 years
			Group includes: Williams Bros., Mid-Continent Exploration, Hidden Splendor Mining, Ferrostaal AG.				
Lane-Wells Co. (one of the Dresser Ind.)	preliminary finalized in 80 days	2.5 up to 10	**Note:** *for finishing & repairing wells*			unspecified peso payment	3 years
Astra S.A., Buenos Aires	preliminary for drilling	1.16	226 daily (estimated)	30	Comodoro Rivadavia	peso payment	
Petrofina S.A., Brussels, Belgium	letter of intent, definite in 45 days, for drilling, producing	35	1,130 daily (estimated)	200	Sarmiento Com. Riv.	$2 per cu meter plus fees, expenses	10 years
Conorada Petroleum	letter of intent for drilling, producing	100				dollar, peso payment	
Sea Drilling Co., New Orleans	letter of intent definite in 30 days; for drilling				Comodoro Rivadavia Offshore	$10 cu meter 60% dollars 40% pesos	6 months exploration
Duren A F with John W. Mecom	letter of intent				onshore & offshore Com. Riv.	per cu meter onshore: $6 (U.S.) $4 (pesos) offshore: $6 (U.S.) $5 (pesos)	

*Cubic meter equals 6.28 bbl.

"The pace at which our neighbors' economic progress advances will determine—in increasing measure—our own rate of economic growth. Expanding trade in the free world is a must, and foreign oil is and will be a large factor in this activity."

M. J. Rathbone, President, Standard Oil Company (New Jersey)

Esso

STANDARD OIL COMPANY (NEW JERSEY)

AND AFFILIATED COMPANIES

drill 50 wells in the first year—10 in Sarmiento and 40 in the Cerro Dragon area, using five rigs. Depending on results, the company will drill up to an additional 100 wells in the second year, and build a pipeline.

Indiana Standard, which says the contract involves no stipulation for expenditure of a fixed amount of money, feels the arrangement will save YPF about two-thirds of the dollar cost of imported oil today.

The company hopes to be able to attain a rate of delivery to YPF of about 30,000 b/d within two years. That would be approximately a one-third boost over current production, which was estimated at 90,000 b/d at the end of 1957.

This agreement and the only other contract signed in definite form so far—that of Carl M. Loeb, Rhoades & Co.—are generally felt to be similar to "concessions," the only difference being that the companies have no ownership of the oil.

Oil produced by these companies may be neither exported nor freely sold and marketed in Argentina. It must, instead, be delivered to YPF.

Both Pan American and Loeb will assume the entire risk in the undertaking and will provide the funds for all drilling, development, and—in Pan Am's case—construction.

In payment, Pan American will receive $1.60 per bbl. of oil delivered to YPF, 60% in dollars and 40% in pesos. After five years, this payment is subject to renegotiation to reflect changed market prices.

An interesting point of the Pan Am contract: After the third year, YPF will give preference to Pan Am in all crude imports over any "person, company, or society," to supply its imported crude needs—all other conditions being equal. The total imports from Pan Am are not to exceed one-third of YPF's 1957 crude imports.

The Loeb contract differs, since it provides separate payments for cost-reimbursement and for profits—both to start with deliveries of oil to YPF from an area not yet disclosed.

The New York banking firm is primarily the banker for the venture, and admits that experienced oil help will be needed. It will invest a minimum of $100-million on straight development drilling in proven fields over a period of 20 years.

Its costs will be reimbursed at the rate of 50% of the "value" of oil delivered to YPF. In addition, it will get another 15% as its pofit, on a sliding scale, decreasing as the volume of deliveries increases.

The "value" of the oil will be based on current international market prices. This means that the rate of compensation to the company will be under constant renegotiation. For this reason, special importance is attached to the contract's arbitration provision, whereby Argentina's President appoints the third arbitrator.

Two more contracts, previewed in letters of intent by Petrofina and Conorada, and still unsigned, show a similar "concession" trend.

The Petrofina deal calls for the firm to drill some 200 wells, over a ten-year period, in the Sarmiento field, Comodoro Rivadavia area.

Although payment terms are still somewhat fuzzy, it now appears that Petrofina will receive $1 per cubic meter for amortization and financial charges, plus $1 per cubic meter for indirect expenses, for ten years, based on the effective production delivered to YPF. It would also be paid for drilling expenses. And, in addition, it apparently will get a fee for production, based on the volume it turns over to YPF.

Conorada, on the other hand, submitted only a very general "letter of intent." It called for drilling of an unspecified number of wells for an unspecified cubic-meter payment. Trade sources indicate that Conorada is not interested in a deal unless it gets an "economic interest" in the oil it handles.

The group headed by Floyd Odlum's Atlas Corp. is now carrying on discussions for a first-stage agreement on its $700-million package offer.

The group would put up $150-million under this stage to cover oil development equipment and, possibly, the first stage of a $130-million gas line from Comodoro Rivadavia to Buenos Aires, with an extension to Plaza Huincal. Ferrostall A. G., the West German steel firm participating in the group, is said to be interested in puttting up $100-million for the proposed venture. Negotiations involving the several participants are continuing.

The deal includes plans: (1) to supply $50-million worth of equipment at 20% cash in pesos, 80% in dollars in half-yearly quotas, starting after third year; (2) to construct a $5-million factory for oil equipment; (3) to sell Argentina 2.8-million cubic meters of crude over two years, or 5.6-million cubic meters over three years, at 20% cash in dollars, rest in four half-yearly quotas; and (4) to loan $30-million to the Central Bank for financing of work done. Annual interest on all these is 4.75%.

In the meantime, to take care of its immediate oil needs, Argentina has concluded a barter deal for oil from Colombia, Venezuela, and Peru.

Frondizi has confirmed a commercial pact under which Argentina is to get $15-million to $35-million worth of Colombian, Venezuelan, and Peruvian oil within the next 12 months in exchange for Argentine raw materials, primarily hides and wool.

What's New / AROUND THE WORLD

FRANCE—A Caltex affiliate has encountered its first enouraging oil show in the Paris Basin 70 mi. south of Paris, further strengthening prospects for production in the region.

The show was found in the No. 1 Chateaurenard by Fropex (Soc. France Outremer de Prospections et Exploitations Petrolieres), owned 55% by Cie. d'Exploration Petroliere and 45% by American Overseas Petroleum France, an associated Caltex company.

According to reports in Paris, the well swabbed 63 bbl. of crude in 12 hours in an 8-ft. interval at 1,845-53 ft. in the lower part of the Lower Cretaceous, a formation in which oil shows have never before been encountered in the Paris Basin. (The wildcat was originally drilled in the Jurassic, but without success.)

After the 12-hour period, the well produced an unspecified volume of oil with water, with crude content of 65%, and then ran entirely to water. Since then Fropex has done remedial work, and the well is now being retested.

•

NEUTRAL ZONE—The Japanese have started seismic work on their new concession, one month behind schedule.

Arabian Oil Co., Ltd., says the survey, being conducted by Geophysical Service International, will take three months and cost about $1-million.

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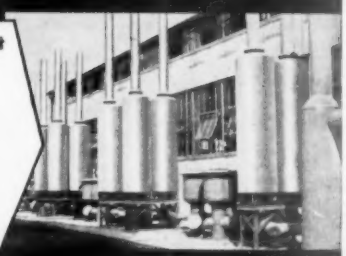

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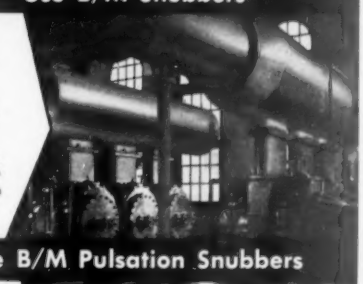

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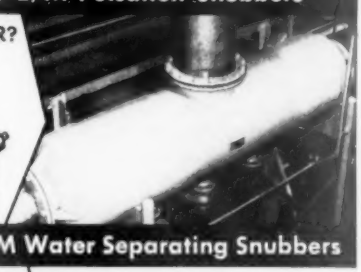

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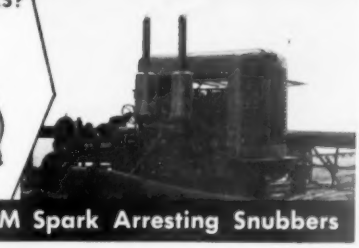

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Teamster-Oil Talks: A Touchy Deadlock

Chicago Teamsters and 350 oil firms are still negotiating for a new contract after ten weeks. Truck drivers want higher wages, increased benefits. Strike has been authorized, and could erupt at any minute.

Negotiations between oil companies and the Teamsters Union in Chicago this week were likened to a "keg of dynamite" as labor and management sat down for a fifth stab at settling on a new contract.

A veil of secrecy, rumor, and speculation hovered over the negotiation table, as talks resumed Wednesday. Neither side wanted to make any predictions.

Teamsters Union contracts with refining, distribution, and tank-transport firms in the Chicago area expired June 30. The ten locals, representing about 4,000 truck drivers, have been working without a contract since then.

Industry spokesmen — representing 350 oil companies—and union officials have been negotiating for about ten weeks in an effort to avert a strike. There's been little progress, however.

Chief stumbling block behind the deadlock is the union's demand for a 10¢-an-hour wage boost—reduced from an original 25¢ demand. Management maintains that an increase is out of the question, because of declining revenues. Current scale is $2.75 an hour.

Another source of friction is a clause regulating overtime pay. Oil companies want to change the clause in the old contract to permit payment of overtime only after ten hours of work in any one day, or after 40 hours in one week. Union officials refuse to give in to this demand and are determined to retain the clause in the former contract, requiring overtime pay after eight hours in one day.

Originally the union presented 17 different demands. Aside from the wage demand, other key issues are:

- Demand for 75¢ per week employer contribution for health and welfare funds and 50¢ per week for pension funds. (This demand applies only to those companies that do not already have an employee benefit program including health and pension funds.)
- Request for double-time pay to drivers for working on holidays (this would be in addition to the regular pay that all employees receive for not working on a holiday).
- Request to increase the number of annual paid holidays from eight to ten. A union spokesman told PETROLEUM WEEK, however, that the union would be willing to settle for one additional holiday instead of two it had demanded earlier.
- Union contention that drivers should be entitled to three-week paid vacation annually after ten years' service. Former contracts required 12 years employment.

All ten locals voted in favor of a strike last week. However, calling a strike was left up to the Teamster Executive Committee of Chicago. Union officials in Chicago indicated a desire to continue negotiations a little longer.

In addition, there was some confusion over whether or not to have a strike cleared by International Teamster headquarters in Washington, D.C. If the International supports a strike, strikers are eligible for $15 per week from the headquarters strike funds.

Both labor and management hedged on questions about the negotiations, for fear of being out-maneuvered.

Union officials leaped on news of any oil company expenditures—such as one major's announcement of plans to build a new terminal. Labor spokesmen claimed that such expenditures proved the ability of oil companies to grant a wage increase.

Meanwhile, suppliers continue to help dealers keep station gasoline supplies at a maximum. Even capacity inventories—at a time of peak demand—would be exhausted in about three days if deliveries were cut off, according to industry estimates.

It isn't too unusual for dealers to keep inventories at higher levels during the peak months of June, July, and August. But several major company spokesmen told PETROLEUM WEEK that they have been buying more since negotiations have got "hot" in the past few weeks.

Suppliers feel that about all they can do in preparation for a possible strike is to keep current supplies up—even if it means extending special credit to dealers who can't afford a big capital outlay all at once. There's little risk in this practice, they feel, since a dealer with gasoline available can easily sell it in event of a strike.

Oil company estimates that station supplies would run out in three days are based on the assumption that many motorists would rush to fill gasoline tanks when or if a strike went into effect.

"After that," comments one official, "we'd sell the hell out of TBA and pray for some sort of settlement."

Teamsters are in a tight spot, too. They couldn't afford a long period without pay, for one thing. The impact of a tight economy has been felt all down the line, and a prolonged strike would put the squeeze on even more.

Some observers feel that the union may postpone a strike as long as possible, in an attempt to gain a "psychological advantage" by keeping management guessing.

One veteran observer presents this analysis of the union's hesitancy to strike: "If negotiators wait until September's predicted upturn in business activity, oil won't be able to 'plead poverty' if the over-all economy is better."

On the other hand, oil companies figure the pressure will lessen for them by September, with peak demand past.

Furthermore, Teamsters are already in hot water over investigations into alleged "labor rackets." A strike could put them in even more disfavor.

Washington and Chicago investigations into "illegal" union activities, such as "sweetheart" contracts, have given the Teamster unions a bad press.

In any case, neither side wants to see another Teamster strike like the one in 1949. It was costly for both management and labor.

The 22-day strike that began on Aug. 11, 1949, was not a "completely dry" strike, since deliveries were continued to some independents, who signed contracts promising to support teamster demands in final negotiations. Nevertheless, drivers lost about $19,000 a day in wages.

Suppliers and dealers lost revenue, too. Not only during the strike was this true, but after—since motorists who had switched to private-brand stations had to be won back.

Many of these huge tankers make trips of three to four-hundred miles per day over highways which subject them to almost continuous shock and vibration. USS "T-1" Steel is relied upon to provide brawn as well as bonus payload.

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Since a hauler nets about one dollar per year per pound of deadweight saved, and the life of the tanker will be about 10 or 12 years, a weight saving of 3,470 lbs. will amortize the cost difference of "T-1" Steel several times over.

Trinity Steel manufactures three sizes of "T-1" Steel tanks, each custom-made to fit the gross weight requirements of the state or states in which it will operate. The tank shown here is 7 feet by 34′4″. Working pressure is 250 psi, although tested out at 500 psi. Thickness of the "T-1" Steel shells is only .419″ and the heads .250″. All parts are made of USS "T-1" Steel, including the shells, heads, openings, fittings and all the structural padding. No other material is welded directly to the heads or shell of the tank.

Even larger "T-1" Steel tanks are being built—over 10,000 gallons—for use in states where gross weight laws permit.

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Only a few stations were able to make money. One major company set up feeder pipelines from a terminal to nearby dealers, who sold up to 100,000 gal. a week. Dealers near railroad sidings did a landslide business, too. But there were many who nearly went under.

Will the Chicago negotiations have a trend-setting effect on other Teamster talks pending in the Midwest? Opinions are divided.

Some observers say that negotiations in Chicago are being delayed until someone else sets the pattern. Others contend that a Chicago strike or settlement will set the pattern. Teamster-oil company contracts in Milwaukee and St. Louis expired Aug. 1. Contracts for the traditional pattern-setting Teamster group in St. Paul and Minneapolis expire Aug. 30.

Sohio truck drivers in Cleveland and Youngstown, Ohio, settled last month on a 10¢-an-hour wage boost. The drivers—members of the Independent Petroleum Workers, not the Teamsters—now have a top scale of $2.61 an hour.

One management spokesman in Chicago sums it all up with this comment: "The situation at the present time around Chicago's bargaining table is dynamite. It could explode at any minute."

What's New / IN MARKETING

El Paso Natural Gas Products Co. is using the "El Paso" brand on a new superpremium, but retaining the "Dixie" label on its premium and regular grade gasolines. The El Paso branded third-grade made its appearance last week at 17 new stations in El Paso, Tex.

The El Paso Red Flame Super Premium is the first third-grade superpremium to be sold in the El Paso area, according to company officials. Its price will be slightly more than premium grades marketed by majors.

Five new El Paso-Dixie stations opened this week in Odessa, Tex. The company now has stations throughout West Texas, New Mexico, and Arizona, and in southern Colorado and southern Utah.

•

Lion Oil Co. is switching to a new credit card system, incorporating the use of plastic credit cards and station imprinters at the pump island. The "Credi-Matic" system goes into effect the first of the year. The new cards will be mailed to customers in December.

•

American Petrofina has opened four new district marketing offices, located in El Dorado, Kan.; Wichita Falls, Tex.; Tulsa, Okla.; and Des Moines, Iowa. Most of the company's stations in the territory covered by the new offices now market Elreco products, soon to be re-identified as the Fina brand. Elreco is the brand-name for El Dorado Refining Co., recently acquired in Petrofina's purchase of Petro-Atlas Corp.

Gasoline advertisers rank second among purchasers of spot radio time, according to a new report of competitive radio advertising. The report, covering the second quarter of 1958, was compiled by Radio Advertising Bureau, Inc.

Gasoline and lubricants accounted for 11.5% of all radio spot ads, about half the 25% attributed to food and grocery firms—top users of spot radio time. In total network radio advertising, gasoline and lubes ranked in 17th spot, with 1.4% of the total.

•

Billups Eastern Petroleum Co. has been organized at Jacksonville, Fla., as a subsidiary of Billups Petroleum Corp., a leading independent marketer. Herbert H. Peyton has been named president of the new subsidiary, which will include Billups properties in Florida, Georgia, South Carolina, North Carolina, Virginia, and Delaware. Billups has 115 retail outlets in these states.

•

A Spokane natural gas distributor is giving $5 to each customer who suggests a new gas-heat user. Gas-meter readers are taking special door knob tags with them, to be left on doors of the company's 10,000 gas customers. The customer is offered $5 if he sends in the name of a prospective customer who later converts to gas heat. The installing dealer pays the $5. The company says results are already pouring in, even though the program just started.

All the comforts of home

A little bit of home flies with you when you take a trip on one of today's modern airliners. The friendly comforts . . . the small but important needs . . . are graciously and thoughtfully provided. No wonder so many people are flying.

Last year, America's airliners carried more than 42,000,000 passengers a total of 25 *billion* miles. Providing the fuels and lubricants to make this possible has been a big job for the petroleum industry. Texaco is proud of its part in this task—for during the last 23 years more scheduled revenue airline miles in the United States have been flown with Texaco Aircraft Engine Oil than with all other brands combined.

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JAMES D. CUNNINGHAM is the new chairman of Republic Flow Meters Co., subsidiary of Rockwell Mfg. Co., and **WILLIAM F. CRAWFORD** succeeds him as president of the Chicago company. Cunningham, who founded Republic in 1911, is chairman of the board of trustees of Illinois Institute of Technology, Chicago. He is also a director of Allis-Chalmers Mfg. Co., and the Baltimore & Ohio Railroad. Crawford, a director of Republic, was formerly vice-president. He is also president of Edward Valves, Inc., East Chicago, Ind., and Valve Products, Inc., Knox, Ind., both subsidiaries of Rockwell.

WAYNE H. LEE is geophysical supervisor of Robert H. Ray Co.'s newly established office in Bakersfield, Calif. He has been Canadian supervisor for Ray since 1951.

WILLIAM STORMS has been appointed merchandise manager of Continental-Emsco Co. C.A., in Caracas. He will be responsible for inventory and merchandise stocking for the company's three stores in Venezuela.

GEORGE E. DOTY has become vice-president and general sales manager of Grove Valve & Regulator Co., with offices in Oakland, Calif. Three new regional sales managers for Grove are: **R. L. Briggs,** central region, with offices in Tulsa; **W. J. Hancock,** eastern region, with offices in Houston; and **C. W. Cook,** western region, with headquarters also in Houston. **F. A. Fergusson** has been appointed service manager for the company's nationwide operation. He will have offices in Houston.

G. E. Doty W. Heard

WOODROW HEARD has been named works manager for Brown Oil Tools, Inc., Houston. Heard was associated with McEvoy Co., in Houston, before he joined Brown earlier this year.

AVERY C. ADAMS will become chairman of Jones & Laughlin Steel Corp., Pittsburgh, on Oct. 1, succeeding **ADM. BEN MOREELL,** who is retiring. Adams will retain his responsibilities as president and chief executive officer of the company. He was elected president of Pittsburgh Steel Co. in 1950, and joined J&L as president in 1956. In 1957, he became J&L's chief executive officer. Moreell will continue as a director and a member of the board's executive committee.

DUANE R. BRANAKA is sales manager for Valvair Corp., Akron, Ohio, subsidiary of Sinclair-Collins Valve Co. Branaka has been associated with Warner Electric Brake & Clutch Co., as Detroit district sales manager, and with Celanese Corp. of America as Chicago sales representative.

D. R. Branaka W. H. Heikkinen

W. H. HEIKKINEN is northern California regional sales manager of Granberg Corp., manufacturer of pumps and meters for the petroleum industry. He will have headquarters in Oakland.

DR. DON B. GOULD has become administrative geologist for Geophoto Services, Ltd., in Calgary. He joined Geophoto in Denver in 1951.

ROBERT E. BROWN is head of Kaiser Steel Corp.'s newly established sales office in Houston. **Walter W. Peters** replaces Brown on the company's sales staff in Tulsa. Peters was formerly tubular sales service manager at the general sales office, Oakland, Calif.

GEORGE E. MATTER has been named executive vice-president and general manager of Homco International, C.A., affiliate of Houston Oil Field Material Co. He will direct Homco International's operations from headquarters in Morochas, Venezuela.

JAMES K. LOGAN is manager of Catalytic Construction Co.'s Middle Atlantic area. He will be located at Catalytic's main office, in Philadelphia.

LEO T. RYAN was appointed general sales manager of Vulcan Steel Container Co., in Birmingham, Ala.

WALTER B. TAIBLESON was appointed to the newly created post of corporate controller of National Can Corp. He will be located at the company's executive offices in Chicago.

Y. S. HOGG has been appointed manager of the Tampa (Fla.) district office of Allis-Chalmers Mfg. Co. He was formerly a sales representative in the company's New Orleans district.

GEORGE M. KEITH was named executive vice-president and sales manager for Aquatrol, Inc., Chicago. He has been with Aquatrol since 1949, when it was founded, and has been serving most recently as Houston district engineer. **R. O. Johnson** has been promoted to technical service director at the company's Houston office. He was formerly a Mid-Continent division engineer in Tulsa.

JAMES A. GOBEL, JR., has become assistant executive secretary and field representative for the Assn. of Oilwell Servicing Contractors, in Dallas. For the past year, Gobel has managed W. C. Brown Pipe & Supply Co., Crane, Tex.

HERBERT E. HILL, president of Herbert E. Hill Advertising, Inc., and **ROBERT HEINTZ,** president of Heintz & Co., have announced the merger of the Hill advertising accounts and personnel into the Heintz organization, in Los Angeles. Three former Hill executives and their new positions with Heintz are: **Hill,** vice-president and a director; **Bernard F. Klein,** vice-president and a member of the plans board committee; and **Robert Lawrence,** member of the plans board committee and art director of the industrial advertising department.

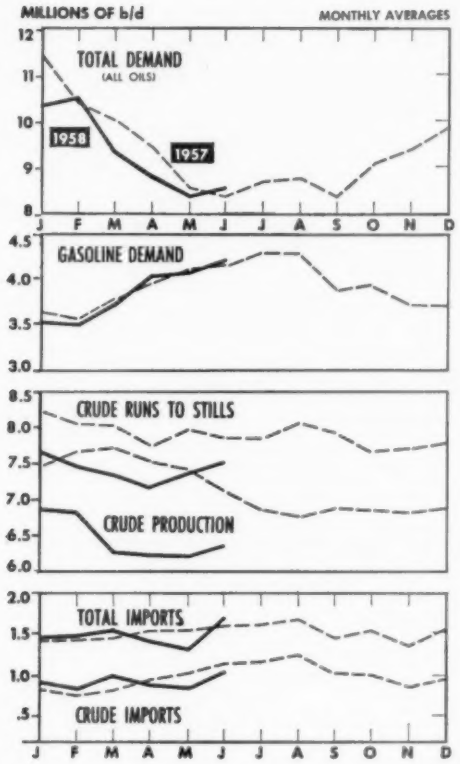
DR. J. F. DUNN has been appointed assistant director of research for Walworth Co., manufacturer of valves and pipe fittings, with offices in New York. Prior to joining Walworth in 1957, Dunn was a project leader in the dynamic analysis and control laboratory at Massachusetts Institute of Technology.

Dr. J. F. Dunn R. E. Wilson

R. E. WILSON was named manager of communications manufacturing in the communications products department of Radio Corp. of America. He will direct manufacturing activities of mobile communications equipment from Camden, N.J. Wilson was formerly in charge of RCA's tape recorder and record player manufacturing operations, at Cambridge, Ohio.

PETROLEUM WEEK'S

Fingertip Figures



Supply-Demand Figures for July

(millions of b/d)

	July 1958	% Change from year ago	7 Months 1958	% Change from year ago
Total Demand (Inc. Exports)	8.770	+ 0.9%	9.197	— 3.8%
Gasoline	4.275	— 0.3	3.894	— 1.1
Distillates (Inc. Kerosine)	1.395	+11.0	2.186	+ 0.3
Residual	1.300	— 4.5	1.511	—10.1
Total Supply	8.716	— 5.6	8.886	— 8.8
Domestic Crude	6.504	— 5.2	6.470	—12.6
Nat. Gas Liquids	.800	+ 9.0	.791	— 1.9
Total Domestic	7.304	— 3.9	7.261	—11.5
Crude Imports	.853	—30.0	.941	— 3.8
Total Imports	1.412	—13.8	1.625	+ 5.7

RUNS TO STILLS

Latest week	7.597
Previous week	7.727
Year ago	8.008

CRUDE PRODUCTION

Latest week	6.836
Previous week	6.545
Year ago	6.797

TOTAL IMPORTS

Latest week	1.532
Previous week	1.654
Year ago	1.680

CRUDE IMPORTS

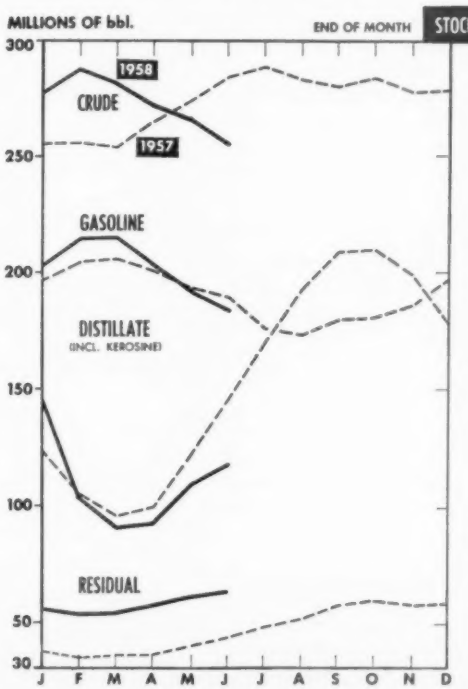
Latest week	.997
Previous week	1.157
Year ago	1.278

The industry's statistical position at the end of July was the best it has been in months. And it may prove to be the best for months to come.

Total demand exceeded the rate of new supply by 54,000 b/d. Demand, averaging 8,770,000 b/d, was up 78,000 b/d over a year ago, and exceeded the June level by 185,000 b/d. And a reduction in total new supply in July from the June level helped bring further improvement in stocks.

But since late July there have been strong indications that the industry may be headed for trouble with gasoline. Refinery runs are up, yields of gasoline are at a peak, and imports of motor fuel continue high.

For the past three weeks, domestic refiners have been producing about 4-million b/d of gasoline, with yields, nationwide, amounting to about 53% on crude runs. Gasoline stocks declined only 6-million bbl. during July, compared with a drop of 8-million bbl. in June, despite the fact that July gasoline demand was up 25,000 b/d over June.



STOCKS: CRUDE

Week-ended 8-2	250.3
Previous week	248.8
Year ago	285.9

GASOLINE

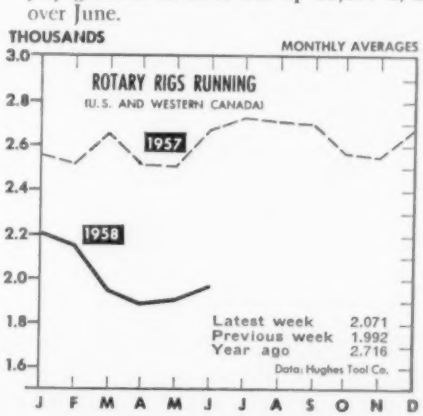
Latest week	177.3
Previous week	178.7
Year ago	173.0

DISTILLATES

Latest week	151.1
Previous week	146.8
Year ago	174.6

RESIDUAL

Latest week	67.3
Previous week	66 9
Year ago	50.1



The Market Trend

Prosperity: Can the Marketers Stand It?

The marketers this week are like the fellow who can't stand prosperity. No sooner do prices start to improve, then up go refinery runs.

Some of the firm prices of recent weeks now are subject to discounts. You hear of gasoline in Oklahoma going at 0.25¢ discount on pipeline sales to Des Moines. At the Gulf, one refiner may be forced to move a cargo of spot gasoline very soon—not usually a bullish symptom.

Some of the most fervent advocates of higher domestic prices have frankly gone foreign as importers of unfinished products. The two aims are not compatible in the long run. The latest trick is the importation of a low-octane "mechanical blender stock"—which isn't to be further refined or reformed and, therefore, is not "unfinished"—to stir in a tank with high-octane concentrate. The result: a cheaper, nonquota source of commercial grade gasoline.

And the brave increases in gasoline tank wagon prices in the East may be heading for trouble before long. The nation's refinery yields of gasoline are considered much too high. You can see a reflection of this in New Jersey, where private brands are selling as much as 3¢ and 4¢ below major brands. This is the kind of situation that starts price wars.

In Chicago, sellers are saying that "everything is better now," and that heavy fuel prices ought to go up. But in almost the same breath they are closing out distress sales around 5.35¢ a gal. (1.3¢ off transport) to ship surplus material down the river.

In volatile markets, there's a rush on to buy propane, and everything looks rosy. Actually, the buying is just to beat a price increase, and not a reflection of increased demand. It may be weeks before some of the buyers return to the Mid-Continent for additional supplies.

Prosperity obviously was too much for some of the tanker operators. The recent boost in spot tanker rates started a trend for vessels to come out of lay-up. As one tanker broker put it, "If foreign rates hold at USMC-45%, ships will start coming out in droves." Last week, while spot Gulf-New York rates pushed up to USMC-10% a foreigner was fixed for Caribbean to Canada, consecutives over the winter, at USMC-50%.

Some Firm Spots Still: There still are some very firm spots in the general oil economy. Many crudes in Texas and the Mid-Continent are strong enough today to take a price advance. No. 2 fuel is steady to firm at the Gulf. In the East, Esso Standard advanced its kerosine, No. 2 fuel, and diesel prices by 0.3¢ a gal. Other companies followed.

Storage Ships: The military got some coverage on tankers to use for storage in the Mediterranean (PW—Aug.8'58,p6). The government fixed a Liberian tanker currently in lay-up for $3.00 a ton for two to four months' time-charter. This rate figures out to about USMC-36%.

A Puzzler: Traders pricked up their ears this week when they heard that an independent U.S. refiner (with no foreign production) was trying to close a 7,000 b/d deal to Europe. The teaser was that the oil was to be 30- to 35-gravity Lake Maracaibo crude, with destination Rotterdam or Bremen.

The Market Place AROUND THE WORLD

Prices compiled for PETROLEUM WEEK by Platt's OILGRAM Price Service and National Petroleum News, McGraw-Hill Publications

All Prices as of August 11

Bold face type indicates changes from previous week

KEY PRICES—REFINED PRODUCTS

(¢ per gal. except dollars per bbl. where $ is shown)

Western Hemisphere

U.S. Gulf Coast, cargoes
- Gasoline, 98 oct prem....12.25-12.875
- Gasoline, 92 oct reg....11-11.5
- Kerosine....8.875-9.125
- Heating oil, No. 2....8.625-9
- Gas oil, 48-52 d.i....8.875-9.5
- Fuel oil, bunker "C"....$2.25-2.40

Caribbean, cargoes
- Avgas, Grade 100/130....16
- Gasoline, 93 oct research prem....11.25
- Gasoline, 87 oct research reg....10.375
- Gasoline, 79 oct research....9.625
- Gasoline, 70-72 oct motor method....9.5
- **Kerosine....9.125†**
- Heating oil, No. 2....8.625
- Gas oil, 48-52 d.i....8.875
- Fuel oil, bunker "C"....$2.25

New York Harbor, barges
- Kerosine....9.65-9.9
- Heating oil, No. 2....9.15-9.4
- Fuel oil, No. 6....$2.57-2.65

Okla-Group 3, northern shpt, bulk
- Gasoline, 89 oct reg....12-12.75
- Kerosine....9.75-10
- Heating oil, No. 2....8.5-8.75
- Fuel oil, No. 6....$1.30-1.45

Chicago, bulk
- Gasoline, 91 oct reg....12.5-13
- Heating oil, No. 2....9.5-11.35
- Fuel oil, No. 6 high sulfur....6.65-6.75

Los Angeles, rack
- Gasoline, 88 oct reg....13-13.6
- Diesel fuel, PS 200....10-11.25
- Light fuel, PS 300....$3.05
- Heavy fuel, PS 400....$2.50-2.70

Natural Gasoline, Grade 26-70
- FOB Group 3....4.5
- FOB Breckenridge, Tex....4

LP-Gas
- Propane, Oklahoma (Group 3)....4-5

Pennsylvania Lubes
- Bright stock, 25 p.t....22
- 200 vis. neutral, 25 p.t....21

Mid-Continent Lubes, Tulsa basis
- Bright stock, solvent 95 v. i....23-24
- Neutral, solvent, 200-210 vis....19.5-20.5

Gulf Coast Lubes
- Bright stock, solvent, 95 v. i....24
- Neutral, solvent, 200 vis....20.5

Eastern Hemisphere

Singapore (Pulau Bukom), cargoes
- Avgas, grade 100/130....17.25
- Gasoline, 79 oct research....10.375
- Kerosine....10.125
- Gas oil, 48 d. i. minimum....10

KEY PRICES—CRUDE OIL

(2¢ differential per deg. of grav. applies except as noted)

Western Hemisphere

United States (at the well)
- Mid-Continent, 36.0-36.9....2.83-3.07
- North Dakota, 36.0-36.9....3.07
- Texas:
  - Gulf Coast, low cold test, 26.0-26.9....3.50
  - Gulf Coast, Upper & Lower, 26.0-26.9....2.92-3.22
  - West Texas, sweet, 36.0-36.9....3.00-3.07
  - West Texas, N. M., inter., 36.0-36.9....3.00
  - West Texas, N. M., sour, 32.0-32.9....2.86
  - East Texas, flat....3.25
  - Mirando, 28.0-28.9....3.31
- Illinois Basin, flat....3.00
- Pennsylvania Grade, Bradford dist., flat....3.90
- California, Signal Hill, 21.0-21.9....2.63-2.73†
- North Louisiana-Arkansas, 36.0-36.9....2.82-3.02
- Wyoming, sweet, 36.0-36.9....2.90-3.00
- Wyoming, sour, 32.0-32.9....2.71

Canada (flat prices, at the well)
- Acheson-Stony Plain (Alta.)....2.61
- Leduc-Woodbend (Alta.)....2.67
- Redwater (Alta.)....2.56
- Daly (Man.)....2.39
- Smiley (Sask.)....2.33

Venezuela (Cargoes, FOB lifting port designated)
- Cumarebo, 48.0-48.9, Tucupido....3.75
- San Joaquin, 41.0-41.9, Puerto la Cruz....3.34
- Oficina, 35.0-35.9, Puerto la Cruz....3.05
- Tia Juana, Medium, 26.0-26.9, Amuay....2.55
- Bachaquero, flat, Las Piedras....2.03-2.08
- Tarra, 38.0-38.9, San Lorenzo....3.08
- Lagunillas Heavy, flat, Cardon....2.25

†Differential per deg. of grav. varies.

Eastern Hemisphere

Middle East, Persian Gulf (Cargoes, FOB lifting port)
- Arabia, 34.0-34.9, Ras Tanura....2.08
- Safaniya, 27.0-27.9, Ras Tanura....1.79
- Iran, 34.0-34.9, Bandar Mashur....2.04
- Iran, 34.0-34.9, Abadan....1.99
- Iraq, 35.0-35.9, Fao....1.98
- Kuwait, 31.0-31.9, Mina-al-Ahmadi....1.85
- Qatar, 41.0-41.9, Umm Said....2.23

Middle East, Eastern Mediterranean
- Arabian, 36.0-36.9, Sidon....2.49
- Iraq, 36.0-36.9, Tripoli, Banias....2.49

Far East, Cargoes, FOB Lutong, Sarawak
- Seria Light, 37-38....2.75

KEY TANKER RATES

(Last pair, per long ton, single voyage)

U.S. Gulf-New York, clean....(USMC —12½%) $2.49
U.S. Gulf-New York, dirty....(USMC —10%) $2.56†
NWI-USNH, dirty....(USMC —40%) $1.62†
NWI-UK/Cont., dirty....(Scale —57½%) 13/10
Persian Gulf-UK/Cont., dirty....(Scale —35%) 36/1*
Persian Gulf-USNH, dirty....(USMC 60%) $5.08

**Sterling.*

ADVERTISERS IN THIS ISSUE

Armour Chem. Div., Armour & Co.	36-37
Bakelite Co., Div. UCC	10
Baker Oil Tools, Inc.	19
Bovaird Supply Co.	4
Burgess-Manning Co., Indus. Silencer Div.	45
Calvert School	34
Campbell Chain Co.	20
Chiksan Co.	40
Crose Mfg. Co., M. J.	39
Dowell	Cover 2
Electro-Motive Div., GMC	22-23
Ethyl Corp.	1
First City Nat'l. Bank of Houston	25
Gen'l. Amer. Transp. Corp.	30
Halliburton Oil Well Cementing Co.	Cover 3
Houston Contracting Co.	45
Hughes Tool Co.	Cover 4
Jones & Laughlin Steel Corp.	17
Lone Star Steel Co.	7
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Porter Company, Inc., H. K.	41
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F. J. Eberle, Business Mgr.

Employment Opportunities 55

Equipment
Used or Surplus New
For Sale 55

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Jackson 3-6951

Boston 6 Donald R. Thompson
350 Park Square Bldg.
Hubbard 2-7160

Chicago 11 Edward A. Callahan Jr.
520 North Michigan Avenue
Mohawk 4-5800

Cleveland 15 J. E. MacArthur
1164 Illuminating Bldg.
55 Public Square
Superior 1-7000

Denver 2 J. W. Patten
Mile High Center, 1740 Broadway
Alpine 5-2981

Houston 25 D. O. Hanson
724 Prudential Bldg.
Jackson 6-1281

Los Angeles 17 Peter S. Carberry
1125 W. Sixth St.
Huntley 2-5450

New York 36 Donald R. Thompson
500 Fifth Ave.
Oxford 5-5959

Philadelphia 3 W. A. Potter
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Rittenhouse 6-0670

San Francisco 4 William C. Woolston
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522 South Boston
Gibson 7-5594

England, London E. C. 4 Herbert Lagler
McGraw-Hill Co., Ltd.
95 Farrington St.

DEPT/Personals

R. Warner, Jr.

T. W. Phelps

RAWLEIGH WARNER, JR., has been appointed manager of the department of Middle East affairs, for Socony Mobil Oil Co., New York, and **THOMAS W. PHELPS** succeeds him as manager of the economics department. **Paul Wollstadt** replaces Phelps as assistant to the chairman of Socony's board. Warner succeeds **Arnold Stebinger,** who will be on special assignment for the company's overseas operations. Warner transferred to Socony from its subsidiary, Mobil Overseas Oil Co., in 1956, and became manager of the parent's economics department later that year. Phelps has been assistant to the chairman since 1949. Prior to that, he was partner in charge of research for Francis I. du Pont & Co. Wollstadt joined Socony in 1951, coming from National Petroleum News and Platt's OILGRAM, where he was managing editor.

BRIAN J. MORROW is the new assistant director in the planning engineering division of Esso Research & Engineering Co., Linden, N. J. Morrow joined Esso Research in 1948 as a student engineer, and was most recently a section head in the planning engineering division.

J. H. Markley

L. F. Shiplet

L. F. SHIPLET became manager of the Dallas division of The Texas Co.'s domestic producing department on Aug. 1, and **J. H. MARKLEY** has succeeded him as manager of the West Texas division, in Fort Worth. Shiplet has been division manager at Fort Worth since 1955; Markley was formerly assistant general manager in Houston.

GLOVER H. CARY, JR., has been appointed manager of industrial development for Texas Gas Transmission Corp., in Owensboro, Ky. Cary, most recently an industrial representative, has also held positions in the pipeline, public and employee relations and company housing departments since joining the company in 1950.

T. B. KYLE has become a landman in the Durango (Colo.) office of Tidewater Oil Co. **John Tomanek,** transferring from Wichita, replaces Kyle in the scouting department at Durango.

HERMAN H. HART was promoted to section supervisor in the land department of Shell Oil Co.'s Tulsa exploration and production area. Hart joined Shell in 1957 as a clerk in Tulsa, and was most recently an analyst in the land department.

P. BOICE ESSER was elected president of Suburban Fuel Oil Service, Inc., and High Point Oil Terminals, Inc., both in Mt. Vernon, N. Y.

DAVID T. SEARLS has been elected general counsel of Gulf Oil Corp., New York. He succeeds **Archie D. Gray,** who was elected senior vice-president in April. **Searls** was most recently a senior partner of Vinson, Elkins, Weems & Searls, in Houston, and is a director of Oil Center Tool Co., Houston.

DAVID E. DAY, Richfield Oil Corp., Los Angeles, has been elected president of Iricon Agency Ltd., Los Angeles, succeeding **S. K. McCauley,** Atlantic Refining Co., Philadelphia. Iricon represents the 5% interest in the Iranian Consortium held by American Independent Oil Co., Atlantic Refining Co., Getty Oil Co., Hancock Oil Co., Richfield Oil Corp., San Jacinto Petroleum Corp., Signal Oil & Gas Co., Standard Oil Co. (Ohio), and Tidewater Oil Co. In addition to his rotational assignment for Iricon, Day continues as vice-president of manufacturing and transportation for Richfield.

HAMILTON ROGERS, former president of Rowan Oil Co., Fort Worth, has been elected a vice-president of Texas Pacific Coal & Oil Co., Fort Worth.

CHARLES V. WALTON is resident manager of Pan Venezuelan Oil Co., subsidiary of Pan American Petroleum Corp., not Pan American International Oil Co. as reported in the July 25 issue. **D. E. Smith** succeeds Walton as exploration superintendent of the parent company's Salt Lake City office, which has not been closed.

V. K. POLAND is manager of McCollum Exploration Co.'s newly established district in Tripoli, Libya. Poland has been with McCollum since 1952, and has managed the company's operations in Calgary, Alta., and in Midland, Tex.

W. A. MEAD is manager of Continental Oil Co.'s new Artesia (N.M.) production district, established within the New Mexico production division. He was formerly production chief for Conoco at Abilene, Tex. **E. D. Coltharp,** formerly petroleum

engineer in the Bowie (Tex.) district becomes district engineer at Artesia. **D. L. Norwood**, formerly a clerk in the Roswell division office, is chief clerk for the new district.

L. A. MORRISON has been named district superintendent for Humble Pipe Line Co. in Pampa, Tex. He succeeds **H. V. McCorkle**, who has retired. Morrison joined Humble Pipe Line in 1934, and has been Pampa district station supervisor since 1954.

L. A. Morrison

N. Stewart

NOLAN STEWART has joined Zapata Off-Shore Co., Houston, as assistant to the vice-president. He was formerly marine superintendent for Brown & Root Marine Operators.

L. D. HINES became manager of export sales for Sinclair Refining Co., New York, on Aug. 1. Hines, assistant manager of export sales since 1951, succeeded **A. J. Geary**, who has retired.

G. S. Williamson

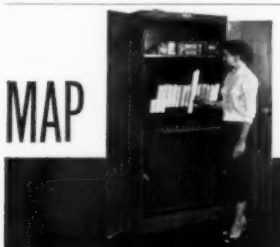
F. G. Watson

G. S. WILLIAMSON and **FRANK G. WATSON** have been named managers of two of Shell Chemical Corp.'s California plants. Williamson will be in charge of the company's synthetic rubber plant at Torrance, and Watson succeeds him as manager of the ammonia plant at Pittsburg. Watson was formerly assistant manager of the manufacturing development department in New York.

L. S. McCASLIN has been promoted to assistant advertising and sales promotion manager of D-X Sunray Oil Co., Tulsa. He joined D-X Sunray in 1955, and was most recently assistant advertising manager.

W. B. READ has been promoted to assistant supervisor of Ohio Oil Co.'s oil movements department in Findlay, Ohio. He has been dispatching engineer in that department. **R. W. Palmer** has been appointed chief crude oil dispatcher, succeeding **R. W. Barnes**, who is retiring. Palmer has been associated with the oil dispatching and pipeline accounting departments at Findlay, since 1940.

WILLIAM P. SIARD became district geologist for Tidewater Oil Co.'s Durango (Colo.) district on July 15. He succeeded **Paul E. Carlton**, who recently transferred to Tidewater's foreign department. Siard joined Tidewater in 1957 as geologist at Midland, Tex.



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Progressive Oil Company seeking Assistant Manager of Refinery Sales. Duties include wholesaling of bulk products (gasolines and light oils) and customer contacts. Extensive experience in this type sales work and acquaintance in mid-west area required. Age 35 to 45. College man preferred but not essential. Travel and relocation in pleasant southern town. Comprehensive employee benefit program. Salary commensurate with background and experience. Write, giving detailed qualifications to:

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Petroleum Salesman—Small and rapidly expanding eastern seaboard oil company needs energetic retail and distributor oil salesmen. Gasoline and motor oil experience necessary. Salary commensurate with experience. Send two background resumes. All information confidential. P-8474, Petroleum Week.

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DEPENDABLE FOR SNOW, WATER SWAMP LAND TRANSPORTATION

The "Weasel" is being used today by leading oil companies for surveying and getting through impassable spots. Many attachments can be equipped on the "Weasel," such as: backshoes, auger attachments, spray units. "Weasel" in the above picture is equipped with a broadjet spray. It is being used in the control of water weeds. This unit sprays a 38' area with one pass.

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Prices Must Move with Costs

EVERY INDUSTRY IS ENTITLED to a fair price for its product, and is justified in raising its prices to a level which will return a reasonable profit. But the petroleum industry, for some strange reason, never has used the method of the steel industry in adjusting its prices to costs, whether it is for higher wages or materials.

The latest price increase of the steel industry on oil country tubular goods demonstrates the workings of this principle. When the steel industry's costs go up, direct or indirect, it boosts the price of its products.

THE NECESSITY FOR THE PETROLEUM INDUSTRY to gear its pricing to such a system repeatedly has been pointed out by PETROLEUM WEEK. But in past years, the industry has stuck to a fixed posted price on crude as though it were sacred; something that should not be disturbed until at least a sizable increase can be made.

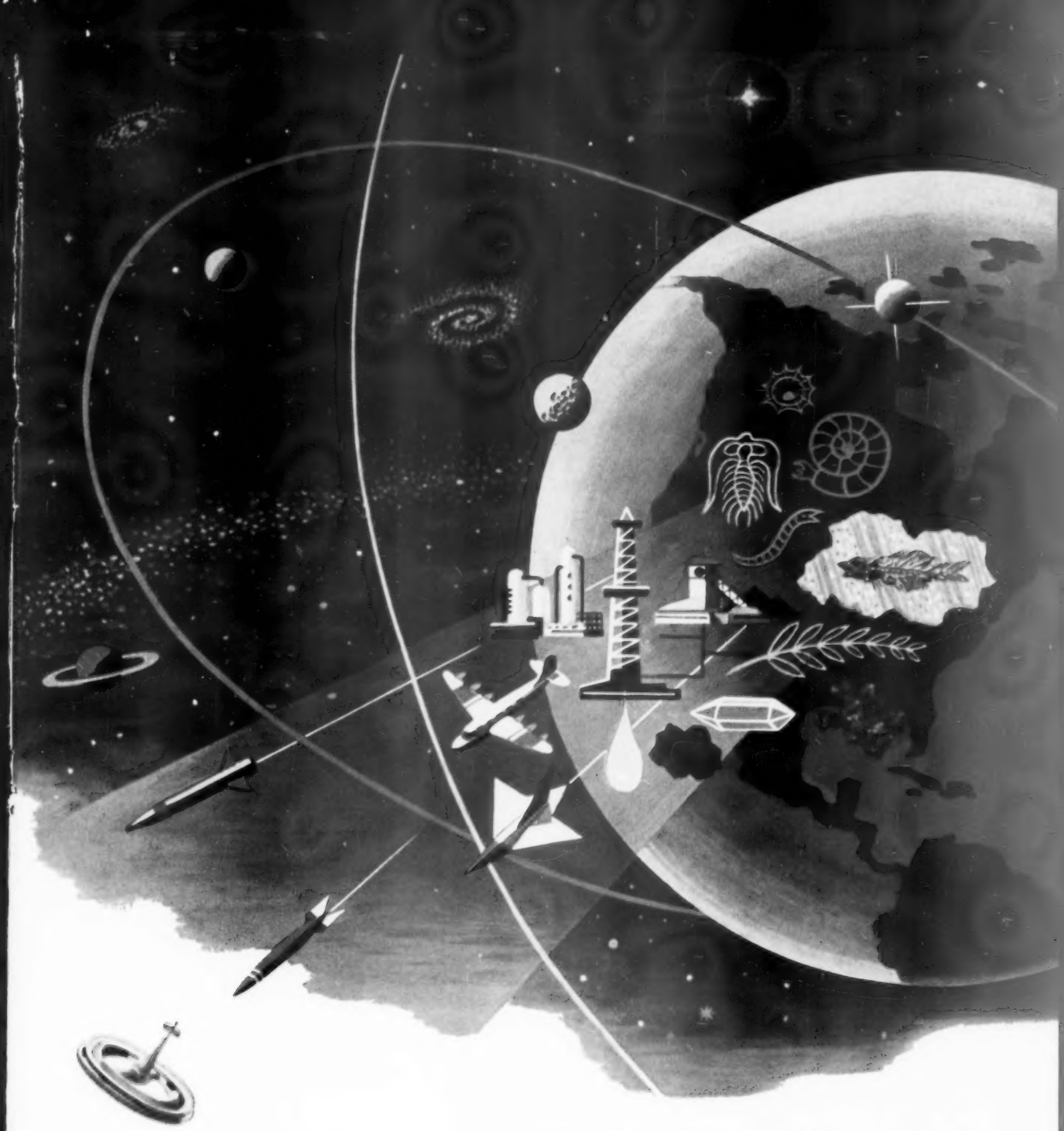
Consequently, it has held back in making necessary and justifiable increases until a situation develops that makes it imperative that more crude be brought onto the market. The Suez crisis was such a situation.

And the results of that effort are a good example of what always happens—congressional and Justice Dept. investigations. In this case, congressional committees set out to prove the industry guilty, and wound up finding it innocent. But the Justice Dept. didn't accept this verdict. It empaneled a federal grand jury, out of which came the recent indictment of 29 companies for alleged conspiracy to fix crude and product prices. And a long and costly court fight is in prospect to prove the industry's innocence.

Such costly expenses and damning in the public's mind could be avoided by merely adjusting the price of crude and products each time costs change. Product prices, to some extent, do operate in this fashion.

BUT COSTS SEEM TO HAVE little or no bearing on the price of crude. There has seldom, if ever, been a time when crude prices rose with increased wages and material costs. Much of the increase of January, 1957, which brought the indictments, already has been eroded away, while costs have continued to climb and profits have deteriorated badly.

The only way this can be reversed is through proper adjustments to meet any and all cost increases as they occur, even though this means hikes of five cents or less per barrel. The point is that they should be made when needed, rather than being permitted to accumulate.



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Halliburton will continue to stand as a working partner in the recovery of these vital force-materials . . . helping to tap subsurface reservoirs for the energy of oil and gas necessary to the needs of man on earth . . . and beyond.

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